Michigan's Sobriety Courts Recidivism Analysis

Summary of Findings and Recommendations

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Executive Summary

This report summarizes evaluation findings for the Michigan Sobriety Courts. The Michigan Community Corrections Act was enacted in 1988 to investigate and develop alternatives to incarceration. Four years later, in June 1992, the first female drug treatment court in the nation was established in Kalamazoo, Michigan. Since then, Michigan has implemented 84 problem-solving courts for adults, juveniles, family dependency, and DUI offenders (Michigan Courts: One Court of Justice, 2016).

In 2016, the State Court Administrative Office of Michigan contracted with the National Center for State Courts (NCSC) to complete an impact evaluation of the adult drug courts operating in Michigan to answer key impact questions related to the adult drug courts operating in the Michigan. To be included in the study, a sobriety court had to be operational between FY12 and FY16, have at least ten program completers, and contribute data to Michigan's Drug Court Case Management Information System (DCCMIS), which resulted in a 25-court study sample. Participant-level data were collected for the cohort actively participating in one of the 25 courts being studied between FY12 and FY16. Analyses focused on describing the sobriety court participant sample, assessing program completion rates, and both two-year and four-year recidivism rates for sobriety court participants compared to a matched business-as-usual (BAU) comparison group.

Several interesting findings emerged that are consistent with prevailing sobriety court trends. Key findings are summarized below:

- Demographics and Placement
    - The typical Michigan sobriety court participant was a single white male (although approximately 40 percent of sobriety court participants were either married or had previously been married at the time of entry), aged 21 to 50 years at entry with a high school diploma or some college education. Most participants were employed at program entry and program exit.
    - The majority of sobriety court participants were placed into sobriety court on a new misdemeanor DUI or alcohol offense. Nearly all sobriety court participants had at least one prior conviction at the time of entry.
- Treatment and Diagnosis
    - The average number of days from arrest to program entry was approximately three months and participants spent two weeks on average between program entry and treatment entry.
    - Nearly 90 percent of sobriety court participants had a substance use diagnosis at entry and over half had previously received substance abuse treatment. The most common drug of choice among sobriety court participants was alcohol.
    - The majority of participants received outpatient treatment and nearly one-quarter received intensive outpatient treatment. The treatment rarely exceeded the participant's ASAM criteria level.[1]

[1] American Society of Addiction Medicine (ASAM) Criteria is a national set of criteria for providing outcome-oriented and results-based case for treating addiction. See http://www.asam.org/quality-practice/guidelines-and-consensus-documents/the-asam-criteria/about

    - Fewer than one-quarter of sobriety court participants had a co-occurring diagnosis at entry and approximately 15 percent had a history of mental illness.
- Incentives and Sanctions
    - Most participants received at least one incentive and one sanction during their time in the program, and 29 percent of participants received jail as a sanction.
- Completion Status and Length of Stay (LOS)
    - Nearly 70 percent of sobriety court participants successfully completed the program and over one-quarter was unsuccessfully terminated. The vast majority of terminated participants were terminated for non-compliance with smaller proportions terminated for absconding or a new offense.
    - The average length of stay for sobriety court participants was 1 year and 3 months, with graduates spending more time in the program than non-graduates.
- Drug and Alcohol Testing
    - Over half of all sobriety court participants tested positive at least once for drugs or alcohol during their time in the program. Significantly fewer graduates tested positive during their time in the program compared to non-graduates, and graduates had a significantly longer period of time from entry until their first positive test.
- Recidivism
    - Regarding recidivism, significantly fewer graduates were reconvicted within one, two, three, and four years of program entry compared to non-graduates for all convictions, generally, and drug and alcohol convictions, specifically. Significantly fewer sobriety court participants were reconvicted of any offense or a drug or alcohol offense within one, two, three, or four years of entry compared to BAU comparisons.

The NCSC evaluation team conducted hierarchical binary logistic regressions to examine which program-level and individual-level variables predict successful program completion, two-year recidivism, and four-year recidivism.

- Completion Status: Two program-level variables predicted successful program completion: rural court programs and the number of program treatment providers. Seven individual-level variables predicted program completion: age, employment at entry, proxy risk (low vs. medium and high vs. medium), time in program, and receiving residential treatment (solely or in combination with outpatient treatment).
- Two-Year Recidivism: No program-level variables predicted two-year recidivism. Eight individual-level variables significantly predicted two-year recidivism: age, marital status, placement offense, receiving residential treatment (solely or in combination with outpatient treatment), and program completion status.
- Four-Year Recidivism: One program-level variable predicted four-year recidivism: programs with the requirement that participants have at least weekly contact with supervision in phase 1. Three individual-level variables predicted four-year recidivism: marital status, placement charge, and program completion status.

Based on the findings, the NCSC evaluation team makes the following recommendations:

Recommendation 1: Adjust current matching process to include proxy risk variables.

- In order to adjust the current matching process to account for participant and comparison risk, other information could be gathered in the Judicial Data Warehouse, including factors for age at placement, age at first arrest (including juvenile arrests, if possible), and number of prior arrests (including juvenile arrests, if possible).
- Short of including a statewide risk-needs assessment discussed below, including age at placement, age at first arrest, and number of prior arrests in the matching process is the next best option to better ensure the participant-comparison pairs match in risk.

Recommendation 2: Adopt a statewide risk-needs instrument.

- For the court programs to best serve the high-risk/high-need population and reduce recidivism, NCSC recommends the adoption of a validated, statewide risk-needs assessment for both sobriety court participants and probationers in general.
- Not only would the use of a validated risk assessment instrument allow for better matching between sobriety court participants and their comparisons, it would also allow staff to better create case management, treatment, and supervision plans, taking into account participants' individual needs and risk levels.

Recommendation 3: Assess the use and effectiveness of residential treatment.

- The NCSC evaluation team recommends an examination of who is receiving residential treatment; to what extent drug court participants receive treatment above and below their ASAM criteria need; to what extent participants who receive residential treatment successfully complete; and to what extent residential treatment providers are effectively utilizing evidence-based practices.

Introduction and Background

The first drug court in the United States began operating over twenty years ago in response to increasing numbers of drug-related court cases entering and cycling through the criminal justice system. As of December 31, 2014, there were an estimated 3,057 problem-solving courts nationwide, serving approximately 127,000 people per year (Marlowe, Hardin, & Fox, 2016). Nationally, 1,540 problem-solving courts were adult drug courts, 407 were hybrid adult and DUI courts and 262 were DUI courts. Drug Courts have proliferated at a remarkable rate nationally, growing in aggregate number by 24 percent in the past five years (Marlowe, Hardin & Fox, 2016).

In November 2016, the State Court Administrative Office (SCAO) chose to align Michigan's problem-solving courts with the federal definition of problem-solving courts found in *Painting the Current Picture: A National Report on Drug Courts and Other Problem-Solving Courts in the United States* (Marlowe et al., 2016). The model definitions include adult drug courts, which accept only non-impaired driving offenders, sobriety courts, which accept only impaired driving offenders, and hybrid courts, which accept both non-impaired driving and impaired driving offenders.

A sobriety court is similar to a drug court and is a specialized docket within the court system designed to treat non-violent, drug-addicted defendants. A sobriety court judge serves as the leader of an interdisciplinary team of professionals. The collaboration between the court and treatment provider is the center of the sobriety court program; but numerous other professionals such as probation and law enforcement officers play a vital role in making these programs successful. Sobriety courts have demonstrated the ability to reduce recidivism and substance abuse among high-risk substance abusing offenders and increase their likelihood of successful rehabilitation through:

- early, continuous, and intense treatment;
- close judicial supervision and involvement (including judicial interaction with participants and frequent status hearings);
- mandatory and random drug testing;
- community supervision;
- appropriate incentives and sanctions; and
- recovery support aftercare services.

The specific design and structure of sobriety courts is typically developed at the local level to reflect the unique strengths, circumstances, and capacities of each community.

Michigan's Sobriety Courts

Much like the growth of drug courts nationally, Michigan's problem-solving courts developed locally in response to local needs. Michigan Compiled Laws 600.1060(c) defines drug treatment courts as ". . . a court supervised treatment program for individuals who abuse or are dependent upon any controlled substance or alcohol." These courts are specially designed to reduce recidivism and substance abuse among nonviolent substance-abusing offenders and to increase the offenders' likelihood of successful habilitation through early, continuous, and intense judicially-supervised treatment, mandatory periodic drug testing, and use of appropriate sanctions.

Since the enactment of the Michigan Community Corrections Act in 1988, Michigan has implemented 84 problem-solving courts for adults, juveniles, family dependency, and DUI offenders. The five specific goals outlined in legislation for Michigan's drug treatment courts include: (1) reducing drug addiction and drug dependency among offenders; (2) reducing recidivism; (3) reducing drug-related court workloads; (4) increasing personal, familial, and societal accountability among offenders; and (5) promoting effective planning and use of resources among criminal justice system and community agencies. As of 2016, Michigan's sobriety courts operate in 24 counties; however, the five tribal drug courts have special jurisdictions (Michigan's Problem Solving Courts Report, 2016).

Project Approach

In 2016, the Michigan State Court Administrative Office contracted with the National Center for State Courts (NCSC) to complete an impact evaluation of the sobriety courts operating in Michigan. The primary purpose of the evaluation was to answer key impact questions related to the sobriety courts operating in Michigan. Specifically, the evaluation sought to answer the following questions:

- Who was served by Michigan's sobriety courts during the study period?
- What was the operational structure of the Michigan sobriety courts during the study period?
- What combination and types of services were delivered in sobriety courts during the study period?
- Do sobriety court participants reduce their substance use and make other positive changes while enrolled in Michigan's sobriety courts?
- How do Michigan sobriety courts differ from one another as it relates to program practices and populations served?
- How do participants exit Michigan's sobriety courts and what participant and program characteristics are associated with successful completion/graduation?
- How does the recidivism rate of Michigan's sobriety courts compare to the recidivism rates of a matched probation sample?
- What participant and program characteristics are associated with lower recidivism rates?

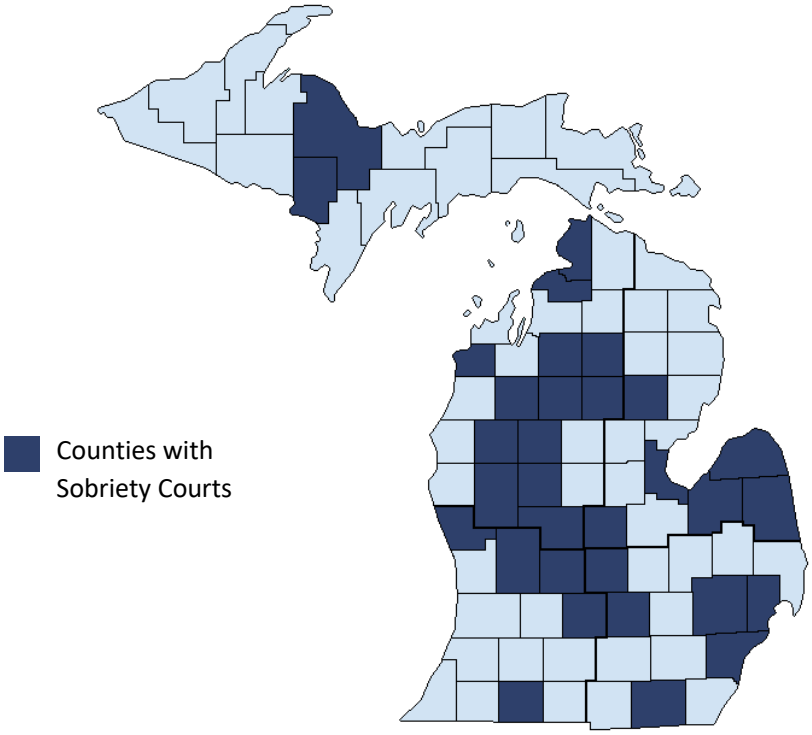
Courts Included in the Study

To be included in the study, a sobriety court had to be operational between FY12 and FY16, have at least ten program completers, and contribute data to Michigan's Drug Court Case Management Information System (DCCMIS). The 25 court sites meeting these criteria and included in this study were:

- 2A District Court, Lenawee
- 3B District Court, St. Joseph
- 18th District Court, Wayne
- 35th District, Wayne
- 39th District Court, Macomb
- 43-2 District Court, Oakland
- 47th District Court, Oakland
- 52-1 District Court, Oakland
- 52-2 District Court, Oakland
- 54A District Court, Ingham
- 54th Circuit Court, Tuscola, Sanilac, Huron
- 56A District Court, Eaton
- 56th Circuit Court, Eaton
- 60th District Court, Muskegon
- 62B District Court, Kent
- 64A District Court, Ionia
- 65B District Court, Gratiot, Montcalm, Clinton
- 74th District Court, Bay

- 77th District Court, Mecosta, Lake, Newago, Osceola
- 85th District Court, Benzie
- 87C District Court, Crawford, Kalkaska, Missaukee, Ogemaw, Roscommon, Wexford
- 90th District Court, Charlevoix
- 90th District Court, Emmet
- 95B District Court, Dickinson
- 96th District Court, Marquette

Figure 1: Michigan Sobriety Courts Included in the Current Study



Sources of Data

For this report, a variety of data collection techniques were employed to maximize the depth of the evaluation process. Participant-level data were collected for the cohort actively participating in one of the 25 sobriety courts being studied between FY12 and FY16.

Supreme Court of Michigan Drug Court Case Management Information System (DCCMIS) and Judicial Data Warehouse

The Michigan Supreme Court State Court Administrative Office (SCAO) administers a web-based case management system known as the Drug Court Case Management Information System (DCCMIS). Administrative data, including demographics, service delivery data (e.g., treatment services, drug tests, sanctions and incentives), and program completion rates were gathered from DCCMIS for the analysis of participant outcomes and to help assess program practices. The data contained in DCCMIS were extracted by the SCAO and used to identify a comparison group in the Judicial Data Warehouse. NCSC received a complete data extraction of all participants who entered a Michigan sobriety courts between

FY12 and FY16 as well as their matched comparison persons. Courts that do not submit data to the Judicial Data Warehouse were excluded from the study, since a comparison group could not be pulled for this group.

FY14 Grant Applications

NCSC reviewed programmatic information submitted in the FY14 grant applications from funded courts in Michigan to identify program practices to be used in the evaluation model. The FY14 grant applications were used to align practices with the study period.

NCSC Sobriety Court Coordinator Survey

The National Center for State Courts created an online survey for sobriety court coordinators to complete. The survey was designed to collect basic information about program characteristics, such as capacity, target population, structure, services and basic operation. The survey was distributed in the fall of 2016 and 100 percent of the project sites completed the survey.

Statistical Significance

Throughout this report, the term "statistically significant" is used. In any analysis, there is a possibility that a result is simply due to random chance or error, even if it looks convincing. A statistically significant result tells us there is strong evidence that a relationship is not due simply to random chance. We can more confidently say a result is true when it is statistically significant. The smaller the p-value, the more confident we are that the result is reliable. The conventional, accepted p-value of a statistically significant result is .05, although p-values between .10 and .051 are described in the report as approaching significance. *Table 1* provides an explanation for the p-values found throughout this report.

Table 1: Explanation of Statistical Significance

***p*-value**	**Possibility Finding is a Result of Chance/Error**	**Possibility Finding is the Result of Factors Studied**
.05	5%	95%
.01	1%	99%
.001	0.1%	99.9%

Participant Characteristics

Drug and DUI courts have been shown to reduce recidivism when compared to traditional criminal justice interventions (e.g., Aos, Phipps, Barnoski, & Lieb, 2001; Carey, Mackin, & Finigan, 2012; Carey & Waller, 2011; Government Accountability Office, 2005; Lowenkamp, Holsinger, & Latessa, 2005; Mitchell, Wilson, Eggers, & MacKenzie, 2012; Shaffer, 2011). Adhering to evidence-based practices that have been shown to be associated with improved outcomes for participants can enhance the effectiveness of drug courts in reducing recidivism. When conducting evaluations of individual drug courts, it is important to collect data that reflects differences between participants that could plausibly be related to differences in outcomes. These include both individual characteristics (e.g., their criminal history, drug of choice) and factors related to the programming they received (e.g., length of program, number of sanctions received). At the level of individual courts, there is no variation in the program characteristics at any given point in time, only variation at the participant level regarding individual characteristics and the programming (both type of programming and dosage) that the individual received. In the next two sections, we first review the literature to recognize participant characteristics that have also been identified as being related to outcomes, and then we review program-related variables related to participant outcomes that can be expected to vary between courts.

In the following section, we examine characteristics of Michigan sobriety court participants, including demographics (gender, race, age), marital status, education and employment at entry, placement offense information, and treatment history. Prior involvement with the adult criminal justice system was also examined, focusing on prior arrests and convictions for both misdemeanors and felonies. The data use the full sample of sobriety court participants as opposed to the matched sample. Consequently, these data provide the most valid and comprehensive picture of sobriety court participants.

Demographics. Michigan sobriety court participants were 72.9 percent male and 27.1 percent female. *Table 2* shows that 87.1 percent of participants were Caucasian and 6.9 percent were African American. Fewer participants were multi-racial, Hispanic or Latino, or belonged to racial groups labeled “other”. The majority of sobriety court participants were between the ages of 21 and 50. The largest proportion of sobriety court participants were 21 to 30 years old at entry (35.0 percent), followed by 31 to 40 years old at entry (24.8 percent) and 41 to 50 years old at entry (22.7 percent). Participant demographics have been shown to be highly related to recidivism, in particular age and gender (e.g., Lanagan & Levin, 2002), as well as race (e.g., Gendreau, Little, & Goggin, 1996). It should be noted that the effect of race is greatly diminished, or disappears for some drug court outcomes, when factors related to race (e.g., previous criminal history, unemployment, and education) are controlled (e.g., Dannerbeck, Harris, Sundet, & Lloyd, 2006); suggesting that race is a proxy for these variables.

Table 2: Demographics of Sobriety Court Participants

Demographics	Number of Participants	% of Participants
Gender		
Male	1,526	72.9%
Female	567	27.1%
Age		
<21	71	3.4%
21-30	733	35.0%
31-40	519	24.8%
41-50	474	22.7%
51-60	237	11.3%
>60	59	2.8%
Race		
Caucasian	1,823	87.1%
African American	144	6.9%
Multi-racial	19	0.9%
Hispanic/Latino	57	2.7%
Other*	50	2.4%

*Other includes Asian American/Pacific Islander, Native American, and Other.

Marital Status. *Table 3* shows Michigan sobriety court participants by marital status at time of program entry. The majority of participants were single (58.7 percent). Married and divorced participants comprised the next largest categories with 19.0 percent and 18.2 percent of the total, respectively. Slightly over 4 percent of sobriety court participants were separated (2.9 percent) or widowed (1.2 percent) at entry.

Table 3: Marital Status of Sobriety Court Participants

	Number of Participants	% of Participants
Single	1,228	58.7%
Married	398	19.0%
Divorced	381	18.2%
Separated	60	2.9%
Widowed	26	1.2%

Education. *Table 4* illustrates the highest educational level achieved at the time the participant entered the sobriety court. At the time of program entry, 11.4 percent of participants were not high school graduates, 30.0 percent of participants were high school graduates, and 7.2 percent received a GED. The remaining participants had a variety of educational experiences including: some attended trade school (5.0 percent); some college (26.8 percent); some completed a two-year college program (5.7 percent); some completed a four-year college program (11.0 percent); and a smaller portion of participants had advanced education (2.8 percent); or their status was unknown (0.1%).

Table 4: Educational Attainment of Participants at Entry

	Number of Participants	% of Participants
11th grade or less	238	11.4%
GED	151	7.2%
High school graduate	627	30.0%
Trade school	106	5.0%
Some college	561	26.8%

	Number of Participants	% of Participants
College graduate 2-year program	119	5.7%
College graduate 4-year program	230	11.0%
Some post graduate/advanced degree	58	2.8%
Other	3	0.1%

Employment Status at Entry/Prior or Current Military Status. *Table 5* illustrates the employment status of Michigan sobriety court participants at the time of program entry. A sizeable proportion of participants were employed full-time at the time of program entry (57.9 percent), while 21.6 percent were unemployed. Sobriety court participants who worked less than 35 hours per week (part-time workers) comprised approximately 13.7 percent of total participants. Nearly 7 percent of participants reported they were either not in the labor force, disabled, or retired at entry. Very few participants (3.9 percent) had prior or current military service.

Table 5: Employment and Military Status at Sobriety Court Entry

	Number of Participants	% of Participants
Employment Status at Entry		
Employed full-time	1,211	57.9%
Unemployed	452	21.6%
Employed part-time	286	13.7%
Not in labor force	100	4.8%
Disabled	24	1.1%
Retired	16	0.8%
Prior or Current Military Service		
Yes	81	3.9%
No	507	24.2%
Unknown	1,504	71.9%

Placement Offense. *Table 6* shows the number and percentage of sobriety court participants' placement offenses. Because Michigan's sobriety courts accept primarily DUI/alcohol placement offenses, the most common placement offense was DUI/alcohol offenses (93.9 percent), as expected. Other/unknown offenses were the next most common type of offense accepted into Michigan's sobriety courts (3.0 percent) and drug offenses was the third most common at 2.0 percent. It is likely that drug and other offenses are included as a placement offense type because one or more courts in the sample are presently classified as a sobriety court based on 2016 data and in prior years might have been classified as a hybrid court.

Table 6: Placement Offense Type in Michigan's Sobriety Courts

	Number of Participants	% of Participants
DUI/Alcohol Offense	1,965	93.9%
Other/Unknown Offense	62	3.0%
Drug Offense	41	2.0%
Property Offense	13	0.6%
Traffic Offense	9	0.4%
Domestic Violence Offense	2	0.1%

Placement Offense Severity. The vast majority of Michigan sobriety court participants entered the program as a result of a misdemeanor-level offense (79.3 percent) that was a new criminal offense (94.7 percent) (see *Table 7*). The type of offense appears to be related to recidivism, with property and drug offenses associated with greater risk (Lanagan & Levin, 2002). Evidence for the severity and type of entry offenses that are related to improved outcomes in drug courts is mixed. Carey et al. (2012) found drug courts that accepted nondrug charges had 95% greater reductions in recidivism than drug courts that limited their entry offenses to drug charges. Conversely, Cissner et al. (2013) determined drug courts that served more participants with drug-related offenses as opposed to property or other charges were more likely to see reductions in recidivism.

For severity, Carey et al. (2012) found the inclusion of violent offenders did not affect recidivism rates positively or negatively, meaning courts that accept violent offenders do as well as those that do not. However, other studies have found the inclusion of violent offenders in drug court programs is associated with increases in recidivism (Mitchell et al., 2012; Shaffer, 2011). One explanation for these disparate findings is the possibility that the key factor in entry offense type and severity is not the offense in and of itself, but how the court responds to offenders with different entry offenses, as related to the risks and needs described above.

Table 7: Placement Offense Severity and Legal Status

	Number of Participants	% of Participants
Placement Offense Level		
Misdemeanor	1,660	79.3%
Felony	432	20.6%
Legal Status at Placement		
New Criminal Offense	1,982	94.7%
Prob. Violation – Tech. Viol.	62	3.0%
Prob. Violation – New Crim. Off.	37	1.8%
Parole Violation – Tech. Viol.	5	0.3%
New Petition	3	0.1%
Other/Unknown	3	0.1%

Time to Placement. Sobriety court participants take an average of 90 days from arrest to program entry and an average of 14 days from program entry to treatment entry (see *Table 8*). Research indicates that 50 days between arrest and program entry results in a greater reduction of recidivism (Carey et al., 2012). In the Michigan sobriety court sample, participants who went on to be non-graduates entered the program significantly more quickly than participants who went on to be graduates. The average participant, however, regardless of how they eventually exited the program, took more than 50 days to enter the program after arrest.

Table 8: Average Time to Placement

Average number of days from...	Average Number of Days	Median Number of Days
Arrest to Program Entry		
All participants	90 days	67 days
Graduates	96 days**	72 days
Non-graduates	72 days	53 days

Program Entry to Treatment Entry		
All participants	14 days	1 days
Graduates	14 days	1 days
Non-Graduates	14 days	2 days

** Significant p < .01

Criminal History. *Table 9* displays the extent to which sobriety court participants had prior involvement with the adult criminal justice system. Sobriety court participants had a history of both prior misdemeanor and felony convictions; 93.1 percent of sobriety court participants had at least one prior conviction; approximately 16 percent of participants had at least one prior felony conviction and 92.3 percent had at least one prior misdemeanor conviction. A substantial body of research shows drug courts that focus on high-risk/high-need defendants reduce crime approximately twice as much as those serving less serious defendants (Cissner et al., 2013; Fielding et al., 2002; Lowenkamp et al., 2005) and return approximately 50% greater cost savings to their communities (Bhati et al., 2008; Carey et al., 2008, 2012; Downey & Roman, 2010). While criminal history is just one component of being high-risk, it is a good proxy for risk.

Table 9: Prior Felony and Misdemeanor Convictions of Participants

	Number of Participants	% of Participants
Any Prior Conviction	1,948	93.1%
Prior Convictions by Offense Level		
Prior felony convictions	340	16.2%
Prior misdemeanor convictions	1,931	92.3%

Considering only Michigan sobriety court participants who had at least one prior conviction, *Table 10* demonstrates Michigan's sobriety court participants averaged 3.1 misdemeanor convictions and 2.6 felony convictions prior to entering sobriety court.

Table 10: Average Number of Prior Felony and Misdemeanor Convictions

	Average number of prior convictions
Average number of prior misdemeanor convictions	3.1
Average number of prior felony convictions	2.6

Drug of Choice. Although sobriety courts focus on DUI/alcohol offenses, upon admission into the sobriety court program, participants are asked to disclose their preferred drugs of choice. Information is based on self-report but may be interpreted by staff in light of other available information, such as the drug involved in the offense at referral and the results of baseline drug tests at intake. It is important to note that not all participants are forthcoming about the nature and extent of their drug use at intake or assessment and this may become clearer once the participant is involved in the program. In addition, preference for multiple drugs is common among participants. *Table 11* portrays the most frequently cited drugs of choice reported by participants.

This analysis reveals the majority of sobriety court participants reported alcohol as the drug of choice (91.5 percent) (see *Table 11)*. Participants reported use of marijuana and heroin/opiates as the next most commonly preferred drugs. For participants who reported, the average age of first drug use was

over 17 (17.4 years old) and the age of first alcohol use was just under 17 (16.9 years old). Fewer than 5 percent (4.9 percent) of Michigan sobriety court participants reported a history of IV drug use.

Table 11: Drug of Choice Among Sobriety Court Participants

	Number of Participants	% of Participants
Alcohol	1,916	91.5%
Marijuana	85	4.1%
Heroin/Opiates	65	3.1%
Poly Drug	6	0.3%
Cocaine/Crack Cocaine	4	0.2%
Methamphetamines	3	0.1%
Other*	14	0.7%

*"Other" includes barbiturates, club drugs, hallucinogens, inhalants, sedatives, benzodiazepines

Diagnosis at Entry and Treatment History Prior to Entry. *Table 12* shows a majority of participants had a substance use disorder at sobriety court screening (89.6 percent). More than half (61.2 percent) of Michigan sobriety court participants received substance abuse treatment prior to sobriety court entry. Nearly one-quarter of sobriety court participants had a co-occurring disorder at program entry (23.9 percent) and nearly 15 percent of sobriety court participants had a history of mental health illness (14.9 percent).

Table 12: Treatment History and Diagnosis Prior to Program Entry

	Number of Participants	% of Participants
Diagnosis at Entry		
Substance Use Disorder Diagnosis	1,875	89.6%
Co-Occurring Disorder Diagnosis	500	23.9%
Prior Treatment History		
Prior substance abuse treatment	1,281	61.2%
Mental health history	312	14.9%

Proxy Risk. Michigan does not employ a statewide risk-needs assessment. In the absence of such a tool, NCSC calculated a proxy risk score for each probationer using the Proxy Risk Triage Screener (where data was available).[2] The Proxy Risk Triage Screener tool is a 3-item screen that calculates a risk score based on:

- age at program placement;
- age at first arrest; and
- number of prior adult arrests.

The NCSC evaluation team had access to the data points needed to calculate risk using this method with the exception of "age at first arrest," which was restricted to adult arrests only based on available data. The Proxy Risk Triage Screener has been used by other states and localities to triage offenders prior to conducting a full assessment with a third-generation risk and needs assessment tool (Hawaii); as part of reentry planning (Miami-Dade); and to make bond recommendations or screen at booking (Eau Claire, Wisconsin).

[2] See Bogue, Brad, William Woodward, and Lore Joplin. 2005. *Using Proxy Score to Pre-screen Offenders for Risk to Reoffend*.

Like all screening and assessment instruments, proxy risk must be normed and validated for the target population. The sample of FY12 through FY16 completers was used to establish cut-off points for scoring purposes. Information about scoring proxy risk can be found in *Technical Appendix: Proxy Risk Scoring.* *Table 13* shows the distribution of proxy risk scores within the sobriety court sample.

Table 13: Distribution of Proxy Risk Scores

Proxy Score	N	Distribution of Sample	Risk Level
2	246	11.8%	Low
3	368	17.6%	Low
4	241	11.5%	Low
5	385	18.4%	Low
6	363	17.3%	Medium
7	229	10.9%	Medium
8	92	4.4%	High
Unknown	169	8.1%	Unknown

Participant Level Variables

In order to examine which individual-level variables predict successful completion from sobriety court and/or lower recidivism rates, the NCSC evaluation team conducted hierarchical binary logistic regressions. The full models included the following individual-level variables:

- gender;
- age;
- race;
- drug of choice;
- marital status at entry;
- employment status as entry (employment status at exit for four-year recidivism model);
- placement offense category;
- participant proxy risk level;
- prior substance abuse treatment;
- total number of treatment hours;
- history of mental illness;
- number of days in court (median split at 420 days);
- drug tested twice per week on average; and
- substance abuse treatment type received (non-residential only, residential only, both residential and non-residential).

Additional information about these variables can be found in *Technical Appendix: Detailed Analysis.*

Conclusion. This section examined a variety of characteristics of those being served in the sobriety courts in Michigan. Demographics suggest the typical sobriety court participant is a single Caucasian male between the ages of 21 and 50. Over half of sobriety court participants have graduated from high school or have some college and were employed full-time at entry. Nearly all sobriety court participants entered the court program as the result of a DUI or alcohol offense. Most sobriety court participants entered the sobriety court program as a result of a misdemeanor offense and had a significant number

of prior misdemeanor convictions. Nearly all sobriety court participants had at least one prior conviction, mostly misdemeanors. Nearly all participants had a diagnosis of substance use disorder at program entry and 61 percent had prior substance abuse treatment prior to program entry. Nearly one-quarter of participants had a co-occurring disorder prior to program entry and approximately 15 percent had a history of mental illness. Most participants reported an average age of first drug use was slightly over 17, and their average age of first alcohol use was slightly under 17.

Program Structure of Michigan's Sobriety Courts

With substantial evidence that drug courts can be effective in producing such outcomes relative to traditional practices, a body of literature has developed in the last fifteen years focusing on the characteristics of effective drug court programs. Research has found support for effective practices in program structure, drug testing intensity, judicial supervision, team staffing and participation, services and curriculum. This section examines the structure and design of Michigan's Sobriety Courts. A brief overview regarding program capacity is provided, followed by a discussion of eligibility, assessment, staffing, treatment, infractions and sanctions, drug testing and evaluation.

In the following section, we discuss the types of services delivered to participants enrolled in Michigan's sobriety courts as well as the incentives and sanctions imposed as a result of program compliance and non-compliance. In all of the tables, the figures represent the average for both graduates and non-graduates. It is important to note, in reviewing the service level data, the average length of stay for all participants (graduates and non-graduates combined) in the program is 457.5 days, or approximately 15 months. This is consistent with recommended best practice that program length should be between 12 to 16 months (Shaffer, 2006: Carey et al., 2012). *Table 14* shows the distribution of sobriety courts by years of operation. Over half of sobriety courts have been operational for six to 15 years, although the range of operational ages is disbursed among all groups.

Table 14: Number of Years the Program has been Operational

	Number of Programs	% of Programs
Fewer than 4 years	3	12%
4 – 5 years	4	16%
6 – 10 years	7	28%
11 – 15 years	9	36%
16+ years	2	8%

Number of Participants. Sobriety courts in Michigan are dynamic organizations developed to meet the needs of local constituents. Number of active participants ranged from as few as ten to as many as 120 participants. *Table 15* shows the program capacity of the 25 sobriety courts surveyed. It should be noted that best practice data suggests courts with a caseload of 125 or more produce poorer outcomes than courts with smaller caseloads (Carey et al., 2012).

Table 15: Program Capacity

	Number of Programs	% of Programs
Fewer than 15 participants	1	4%
16 – 30 participants	4	16%
31 – 45 participants	7	28%
46 – 60 participants	9	36%
61 – 75 participants	2	8%
76 – 90 participants	1	4%
Greater than 90	1	4%

Sobriety Court Team. Studies have assessed the impact of the relationships between Drug Court employees and treatment providers, assessment, and curricula on program success. Shaffer (2006)

found reductions in recidivism were associated with drug courts that employed internal treatment providers rather than external treatment providers. This finding was supported in a subsequent study (Shaffer, 2011), which observed drug courts with internal providers outperformed those with external providers and multiple providers produced better outcomes than drug courts using a single provider. Findings related to team participation indicate outcomes are improved when treatment providers are integral members of the drug court team and regularly attend staff meetings, which can be difficult or impossible with a large number of treatment providers (Carey, et al., 2012). The presence of dedicated prosecutors and public defenders on the drug court team was also associated with reduced recidivism (Cissner et al., 2013).

While there was very little variation among the sobriety courts in terms of judicial, treatment, and supervision attendance in staffing and court, *Table 16* shows that only 64 percent of sobriety courts had prosecutors who regularly attended staffing or court. Eighty percent (80 percent) of sobriety courts reported that a defense attorney regularly attended staffing and 88 percent reported that a defense attorney regularly attended court. Finally, 32 percent of sobriety courts reported that a law enforcement representative regularly attended court. This data reflects practices as of 2014 to coincide with the study period and may not reflect current practices.

Table 16: Sobriety Court Team Attendance in Staffing and Court

Team Member	Attend Staffing	Attend Court
Prosecutor	64%	64%
Defense Attorney	80%	88%
Law Enforcement	Not available	32%

Substance Abuse Treatment Services. Substance abuse treatment is an effective intervention for individuals with substance use disorders (National Institute of Drug Abuse [NIDA], 2014). Drug court treatment produces its strongest effect on participant behavior and subsequent outcomes when it reflects the following characteristics: (1) a continuum of care for substance abuse treatment is offered (including detoxification, residential, sober living, day treatment, intensive outpatient and outpatient services); (2) one or two treatment agencies have primary responsibility for delivering treatment services and clinically trained representatives from these agencies are core members of the Drug Court Team; (3) treatment providers administer treatments that are manualized and demonstrated to improve outcomes for addicted offenders (e.g., Moral Reconation Therapy (MRT),the MATRIX model, and Multi-Systemic Therapy (MST); Marlowe, 2010); (4) participants are assigned to a level of care based on a standardized assessment of their treatment needs such as the ASAM criteria as opposed to relying on professional judgment; and (5) participants have access to prescribed psychotropic or addiction medications (Medically-Assisted Treatment or MAT) when warranted (National Association of Drug Court Professionals [NADCP], 2013; Best Practice Standard V).

Fifty-two (52) percent of sobriety courts reported using more than two treatment providers. *Table 17* shows most participants received outpatient treatment (73.2 percent) and/or intensive outpatient treatment (22.4 percent). Very few participants received residential treatment (8 percent), outpatient detox (0.3 percent), and/or sub-acute detox (0.1 percent).

Table 17: Substance Abuse Treatment Services

	# of	% of Participants
Outpatient	1,532	73.2%
Intensive outpatient	468	22.4%
Residential	168	8.0%
Outpatient detox	6	0.3%
Sub-acute detox	2	0.1%

Table 18 shows a summary of the mean and median number of days of substance abuse treatment delivered to sobriety court participants (both graduates and non-graduates) for the sobriety courts participating in the study. Michigan sobriety court participants who received residential treatment (308.4 hours on average) and intensive outpatient treatment (177.7 hours on average) spent the most hours in treatment.

Table 18: Substance Abuse Treatment Hours/Participant by Treatment Type

Substance Abuse Treatment	Mean Hours	Median Hours
Residential	308.4	180
Intensive outpatient	177.7	183
Outpatient	34.9	31
Sub-acute detox	27.0	27
Outpatient detox	40.7	42.5

Participants must receive a sufficient dosage and duration of substance abuse treatment to enjoy long-term sobriety and recovery from addiction. Participants who receive six to ten hours of substance abuse counseling per week during initial phase of treatment and approximately 200 hours of counseling over nine to twelve months will achieve better outcomes than similar offenders who experience treatment of shorter duration and lower dosage (NADCP, 2013: Best Practice Standard V). Considering only participants who had some recorded data regarding treatment in the Michigan sobriety court sample, participants who later successfully completed the program received significantly fewer treatment contact hours overall compared to participants who did not later successfully complete the program. This effect is largely driven by the number of residential treatment hours received; non-graduates received significantly more hours of residential treatment on average (73 hours) compared to graduates (11 hours). This finding did not change based on participants' length of stay and should not be interpreted as support for providing less treatment. When only non-residential treatment hours are considered, graduates received significantly more treatment contact hours on average (74 hours) compared to non-graduates (58 hours). Length of stay did not completely explain any of these findings.

Table 19: Substance Abuse Treatment Hours by Completion Type

	Mean Hours	Median Hours
All Treatment Contact Hours		
All participants (N=1,974)	96	41
Graduates (n=1,429)	85***	42
Non-Graduates (n=492)	131	42
Residential Treatment Contact Hours		
All participants (N=1974)	26	0
Graduates (n=1,429)	11***	0
Non-Graduates (n=492)	73	0
All Non-Residential Treatment Contact		
All participants	69	37
Graduates	74***	39
Non-Graduates	58	29

***Significant $p < .001$

Table 20 further details the number of participants identified by ASAM level at program entry as well as the type of treatment participants in each level received during their tenure in the program. Nearly three-quarters of participants (65.3 percent) were identified as ASAM Level I Outpatient at entry and most of the remaining participants were identified as requiring Level II Intensive Outpatient/Partial Hospitalization (27.7 percent). Fewer participants were identified as ASAM Level 0.5 Early Intervention (2.3 percent), Level III Residential/Inpatient (4.5 percent), or Level IV Medically Managed Intensive Inpatient (0.1 percent). The proportion of participants who received the appropriate level of treatment varied by ASAM level, with the number and percentage of participants who received each treatment type display in the *Table 20* below. It is important to note that participants often receive treatment of more than one modality within ASAM levels (Level I, for example) or treatment received is unknown (as shown by treatment received for Level 0.5 participants), so the proportion levels do not necessarily equal 100 percent.

Table 20: Assessed ASAM Level of Need Compared to Substance Abuse Treatment Services Received by Sobriety Court Participants

	Number of Participants N=2,092	%
Assessed ASAM Criteria Level		
Level 0.5 Early Intervention	49	2.3%
Level I Outpatient	1,366	65.3%
Level II Intensive Outpatient/Partial Hospitalization	580	27.7%
Level III Residential/Inpatient	94	4.5%
Level IV Medically Managed Intensive Inpatient	3	0.1%
Treatment Received by ASAM Criteria Level		
Level 0.5 Early Intervention (n=49)		
Received SA Outpatient Detox Treatment	0	0.0%
Received SA Outpatient Treatment	43	87.8%
Received Intensive Outpatient Treatment	0	0.0%
Received SA Residential Treatment	1	2.0%
Received SA Sub-Acute Detox Treatment	0	0.0%
Level I Outpatient (n=1,366)		
Received SA Outpatient Detox Treatment	4	0.3%

	Number of Participants N=2,092	%
Received SA Outpatient Treatment	1,207	88.4%
Received Intensive Outpatient Treatment	96	7.0%
Received SA Residential Treatment	108	7.9%
Received SA Sub-Acute Detox Treatment	0	0.0%
Level II Intensive Outpatient/Partial Hospitalization (n=580)		
Received SA Outpatient Detox Treatment	2	0.3%
Received SA Outpatient Treatment	214	36.9%
Received Intensive Outpatient Treatment	347	59.8%
Received SA Residential Treatment	39	6.7%
Received SA Sub-Acute Detox Treatment	2	0.3%
Level III Residential/Inpatient (n=94)		
Received SA Outpatient Detox Treatment	0	0.0%
Received SA Outpatient Treatment	65	69.1%
Received Intensive Outpatient Treatment	25	26.6%
Received SA Residential Treatment	19	20.2%
Received SA Sub-Acute Detox Treatment	0	0.0%
Level IV Medically Managed Intensive Inpatient (n=3)		
Received SA Outpatient Detox Treatment	0	0.0%
Received SA Outpatient Treatment	3	100.0%
Received Intensive Outpatient Treatment	0	0.0%
Received SA Residential Treatment	1	33.3%
Received SA Sub-Acute Detox Treatment	0	0.0%

Table 21 shows a summary of the mean and median number of recovery support groups (e.g., NA/AA) participants attended. On average, considering only participants who had data regarding the number of recovery support meetings attended, graduates completed significantly more hours (122.1) of recovery support meetings compared to non-graduates (87.8). This difference is statistically significant and explained by length of stay.

Table 21: Recovery Support Services

	Participants Completing at Least One Meeting (%)	Mean Hours	Median Hours
All participants	233 (11.1%)	113.5	89.0
Graduates	177 (12.1%)	122.1*	105.0
Non-Graduates	45 (8.1%)	87.8	69.0

* Significant $p < .05$

Mental Health Treatment Services. Sobriety courts recorded very little data on the number and type of mental health treatment participants received. Ten participants received a variety of mental health services including assertive community treatment, doctor/medication review services, inpatient/partial day hospitalization, and therapy services. *Table 22* shows the services provided in terms of treatment hours provided to sobriety court participants. These numbers are likely not reflective of the mental health services received by sobriety court participants as a whole since very few participants had data relating to their treatment received.

Table 22: Mental Health Treatment Hours by Treatment Type

Mental Health Treatment	Mean Hours	Median Hours
Doctor/Medication review (n=1)	1,599	1,599
Assertive Community Treatment (n=1)	1,329	1,329
Therapy services (n=5)	1,182	1,691
Inpatient/Partial day hospitalization (n=3)	26	4

Participants who received mental health treatment (and have data reported) received a sizeable number of hours. One participant received doctor/medication review, one participant received assertive community treatment, three participants received inpatient/partial day, and five received therapy services. The highest number of hours received were for doctor/medication review (1,599 hours) and assertive community treatment (1,329 hours). The average number of therapy services received were almost 1,182 hours.

Probation Services/Ignition Interlock. *Table 23* demonstrates the number of sobriety court participants on probation who had the ignition interlock installed. Thirty-one percent of sobriety court participants had the ignition interlock installed, and it was unknown if 67 percent of sobriety court participants had the ignition lock installed.

Table 23: Probation Services/Ignition Interlock

Installed Ignition Interlock	# of Participants	% of Participants
Yes	648	31%
No	41	2%
Unknown	1,404	67%

Court Appearances. The required court reporting schedule in Phase 1 varied across programs. Four percent (4 percent) required participants to report weekly; 88 percent required participants to report every other week; and 8 percent required participants to report monthly in phase 1. *Table 24* shows a summary of the mean and median number of court appearances made by sobriety court participants (both graduates and non-graduates) for the sobriety courts included in the study. During the judicial review hearings, the judge discusses the participant's progress in treatment and supervision directly with the participant. On average, sobriety court participants appeared before the court approximately 17 times over the course of their participation in sobriety court. The range, among all participants in the study, was from 0 to 49 court appearances. Graduates had significantly more scheduled sobriety court appearances (18.9) compared to non-graduates, although the difference is explained by length of stay in the court program.

Table 24: Scheduled Court Appearances by Sobriety Court Participants

	Mean	Median
All participants	16.8	17
Graduates	18.9***	19
Non-Graduates	12.4	11

***Significant $p < .001$

Drug Testing. The sobriety court programs conducted over 789,152 drug or alcohol tests during the evaluation period, with an average of 385.8 drug or alcohol screens per participant (see *Table 25*). Graduates had, on average, 434.69 drug screens in the program while non-graduates had an average of 247.2 drug screens while in the program. The difference is statistically significant and not explained by length of stay.

Table 25: Average Number of Drug/Alcohol Tests Administered

Type of program completion	Average Number of Drug/Alcohol Tests Administered
All participants	385.8
Graduates	434.6***
Non-Graduates	253.1

***Significant $p < .001$

While the above data reflects individual participant data, NCSC also collected information about drug testing policies as a program-level characteristic. Carey et al. (2012) found programs that performed drug tests at least twice a week in the first phase experienced a 38 percent larger reduction in recidivism supporting results of a previous study that associated such frequent drug testing with the most effective drug courts (Carey et al., 2008). A statewide analysis of Drug Court practices in New York, however, found no significant results from frequent drug tests within the first three months of the program on new arrests within three years (Cissner et al., 2013). The requirement that participants have no positive drug tests in the ninety days before program graduation is associated with improved outcomes (Carey et al., 2012).

Fourteen courts (56 percent) reported using remote alcohol monitoring and 20 courts (80 percent) reported drug and alcohol testing a minimum of two times a week in Phase 1. All 25 sobriety courts reported testing for marijuana, cocaine, opiates, and benzodiazepines. Twenty-three of the 25 courts reported testing for amphetamines, 22 courts reported testing for methamphetamine, 19 courts reported testing for prescribed drugs, 15 courts for PCP, and 12 courts reported testing for MDMA. The least common drugs tested were Spice or K2 (reported by 24 percent of courts) and bath salts (reported by 8 percent of courts).

Sanctions and Incentives. The use of sanctions and incentives is firmly grounded in scientific literature and is a key component of drug courts throughout the United States. Within drug court programs, reinforcement (incentives) and punishment (sanctions) are used to increase desired behavior. According to national research, sanctions tend to be least effective in the lowest and highest magnitudes, and most effective within the intermediate range (Marlowe and Wong, 2008). Drug courts tend to be more effective and cost-effective when they use jail detention sparingly. One study found drug courts that tended to apply jail sanctions of less than two weeks' duration reduced crime approximately two and a half times more than those tending to impose longer jail sanctions (Carey et al., 2012). Moreover, because jail is an expensive resource, drug courts that tended to impose jail sanctions of longer than two weeks had 45 percent lower cost savings in the national studies.

Incentives are used in drug court and in other treatment settings to motivate participant behavior towards pro-social behavior. Incentives are used to shape behavior gradually by rewarding the

participant's positive behavior or achievement of a specific target behavior to reinforce this positive behavior. Long-term gains are more likely to be realized if sobriety courts use positive reinforcement to increase productive behaviors that compete against alcohol abuse and crime after participants are no longer under the authority of the sobriety court. Incentives can be as simple as praise from a staff member or the sobriety court Judge; a certificate for completion of a specific milestone of the program; or medallions that reward and acknowledge specific lengths of sobriety.

Table 26 shows a summary of the number of incentives and sanctions given to sobriety court participants. Nearly three-quarters of sobriety court participants received at least one incentive and over half of participants received at least one sanction, and nearly 30 percent received jail as a sanction at least once during their time in the program.

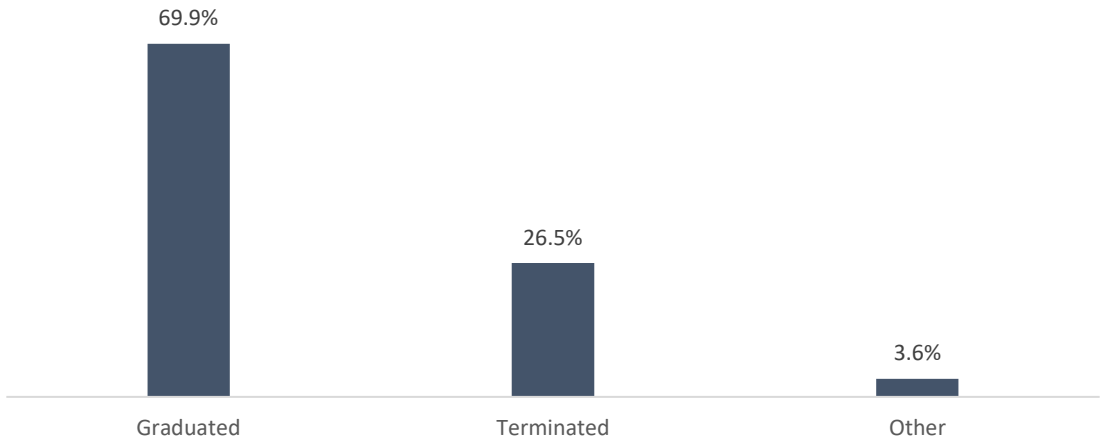
Table 26: Number of Incentives and Sanctions Given to Sobriety Court Participants

Behavioral Response	N = 2,093
Incentives	
% of participants with at least one incentive	74.6%
Average # of incentives per person	6.0
Sanctions - General	
% of participants with at least one sanction	55.5%
Average # of sanctions per participant	1.8
Sanctions - Jail	
% of participants with at least one jail sanction	29.0%
Average # of jail days per participant	19.3

Some studies (e.g., Gendreau, 1996) have found that a 4:1 ratio of incentives to sanctions was associated with significantly better outcomes among offenders. Michigan sobriety courts have a ratio of 6.0 incentives to 1.8 sanctions. Applying the research-based ratio, this is approximately 3.33 incentives to 1 sanction. Michigan sobriety courts come close to the recommended balance of sanctions and rewards.

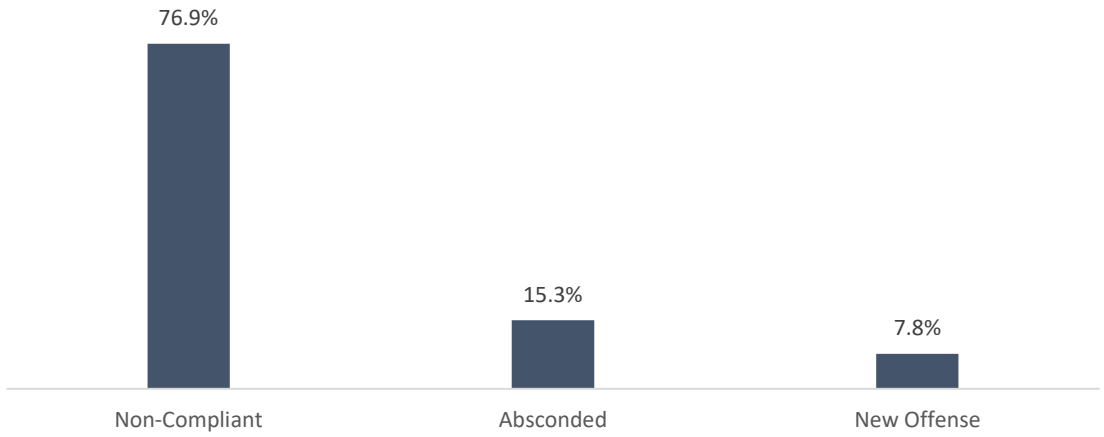
Type of Program Exit. Approximately 69.9 percent of sobriety court participants exited successfully from their sobriety court program (see *Figure 2*). Another 26.5 percent were terminated. While graduates and terminations account for around 96.4 percent of participants who exited, another 3.6 percent exited by means of voluntary withdrawal, medical discharge, death, or other reasons.

Figure 2: Type of Program Exit



Reason for Program Termination. *Figure 3* shows the reasons for termination. Non-compliance accounted for 76.9 percent of unsuccessful program terminations. Absconding accounted for 15.3 percent of terminations and new offenses accounted for 7.8 percent of terminations.

Figure 3: Reasons for Program Termination



Time in Program. On average, all program participants (graduates and non-graduates) remained in the program an average of 457.5 days (see *Table 27*). Graduates spent 1.5 years (530.7 days) in the program, with a range of 77 days to 1,046 days (2.9 years). Non-graduates (terminated participants) spent close to ten months (297.0 days) in program, with a range of 7 days to 1,305 days (3.6 years) in the program. Half of all non-graduates spent more than 8 months (240 days) in the program.

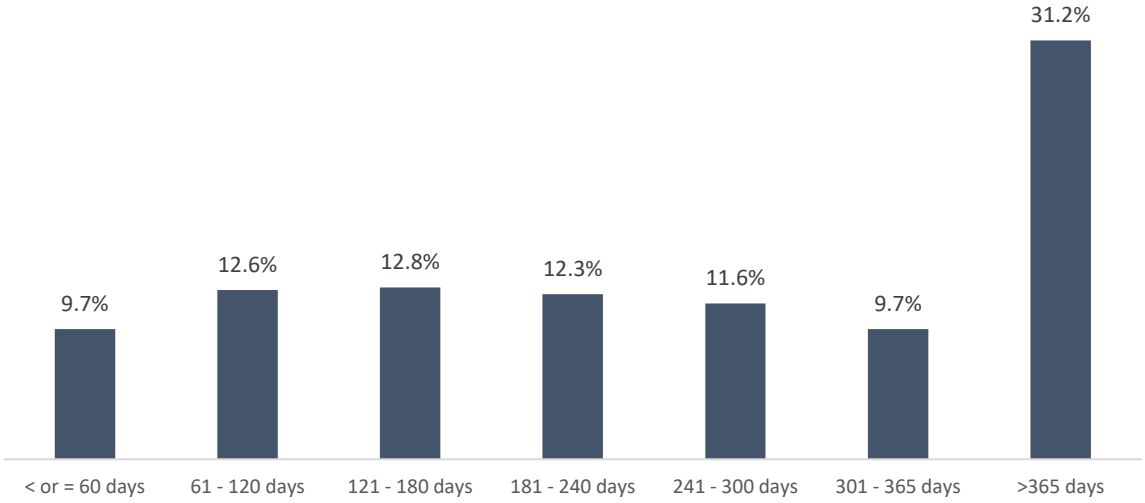
Table 27: Time in Program

	Average Length of Stay	Range
All Participants	1 year, 3 month	7 – 1,305 days
Graduate	1 year, 6 months	77 – 1,046 days
Terminated Participants	10 months	7 – 1,305 days

*This chart does not include the length of stay for the 75 participants closed as "Other." "Other" includes 16 participants without closure data, 34 voluntary withdrawals, 8 deaths, and 17 medical discharges.

A sub-analysis of the amount of time between program acceptance and termination was conducted, as shown in *Figure 4* for the 554 sobriety court terminations. Approximately 22 percent were terminated from the program within the first 120 days (four months) after acceptance, while over 46 percent were terminated between four months and one year after acceptance. The remaining 31.2 percent were terminated more than one year after acceptance.

Figure 4: Number of Days from Program Entry to Termination



The data reflects that participants are not routinely terminated without first having been given ample time to succeed in sobriety court. They also reflect that sobriety courts are investing resources in participants that are for the most part terminated late in their sobriety court programs. Given this investment, sobriety courts should avoid termination, if at all possible. It is recommended that individual programs examine the point in time that terminations occur in their programs (similar to the analysis above) and seek to strengthen their programs at the points where most terminations occur.

Program Characteristics Examined

In order to examine which program-level variables predict successful completion from sobriety court and/or lower recidivism rates, the NCSC evaluation team conducted hierarchical binary logistic regressions. The full models included the following program-level variables:

- program capacity;
- program maturity, measured as younger than 10 years versus 10 years old and older;
- programs' average length of stay;
- programs' average length of stay in phase 1;
- programs' average time from arrest to treatment;
- programs that require weekly court attendance in phase 1;
- programs that require weekly contact with supervision in phase 1;
- programs that require daily AA meetings in phase 1;
- programs in which law enforcement attends court;
- programs in which prosecutor and defense attorneys attend staffing;

- programs in which prosecutor and defense attorneys attend court;
- programs with no more than two treatment providers;
- programs that maintain at least a 4:1 incentive to sanction ratio;
- programs that alcohol test weekly in phase 1;
- programs that drug test weekly in phase 1;
- programs that use remote testing;
- programs that require four months of sobriety to graduate; and
- rural versus suburban and urban courts.

Additional information about these variables can be found in the *Technical Appendix: Detailed Analysis.*

Conclusion. Michigan sobriety court participants receive significant treatment services including outpatient, intensive outpatient, residential, outpatient detox, and sub-acute detox treatment. The most hours of treatment received were for residential treatment (308.4 hours on average) followed by intensive outpatient treatment (177.7 hours on average). Moreover, graduates received significantly fewer treatment contact hours overall and residential treatment hours compared to non-graduates but received significantly more non-residential treatment contact hours compared to non-graduates. Moreover, graduates attended significantly more recovery support meetings compared to non-graduates. Graduates also received significantly more drug/alcohol tests compared to non-graduates. Finally, sanctions and incentives are frequently employed to manage offender behavior and compliance with program and treatment requirements; nearly three-quarters of participants received at least one sanction during their time in a sobriety court program and over half of sobriety court participants received at least one sanction.

Short-Term Outcomes

Short-term outcomes are one measure of court program effectiveness. The following section describes sobriety during the sobriety court program and employment at program entry and program discharge.

Sobriety. Sobriety, both during and after sobriety court participation, is a goal of all sobriety courts because it fosters rehabilitation, public safety, and accountability. Over half (51.9 percent) of participants tested positive for drugs and/or alcohol at some point in the program. Significantly fewer participants who went on to graduate (43.0 percent) tested positive for drugs and/or alcohol at some point in the program compared to participants who were eventually terminated from the program (74.9 percent). Overall, 1.8 percent of all drug or alcohol tests were positive, although the difference between the rate of positive screens for graduates (0.5 percent) was significantly lower than the rate of positive drug screens for non-graduates (5.1 percent).

Table 28: In-Program Positive Drug Tests

Type of program completion	Percent of participants who test positive at least once while in sobriety court	Percent of all drug/alcohol tests that were positive
All participants	51.9%	1.8%
Graduates	43.0%***	0.5%***
Non-Graduates	74.9%	5.1%

***Significant $p < .001$

Table 29 shows the average number of days to the first positive drug or alcohol screen for the 1,087 participants who tested positive at least once during their time in the program. For all participants who tested positive at least once, the average number of days from entry to their first positive screen was 112.7 days. Graduates had a significantly longer period of time before their first positive screen (134.6 days on average) compared to non-graduates (82.4 days on average). Graduates also had significantly fewer positive tests overall (3.1) compared to non-graduates (6.9).

Research shows drug courts that require 90 days of abstinence (measured by continued negative drug tests) before graduation have 164 percent greater reductions in recidivism than programs that require less clean time or that have no minimum required clean time before graduation (Carey et al., 2012). Considering all participants, regardless of whether they tested positive at least once in the program, *Table 29* shows that participants who graduated had a significantly longer period of sobriety (421.6 days on average) compared to participants who were terminated (117.5 days on average).

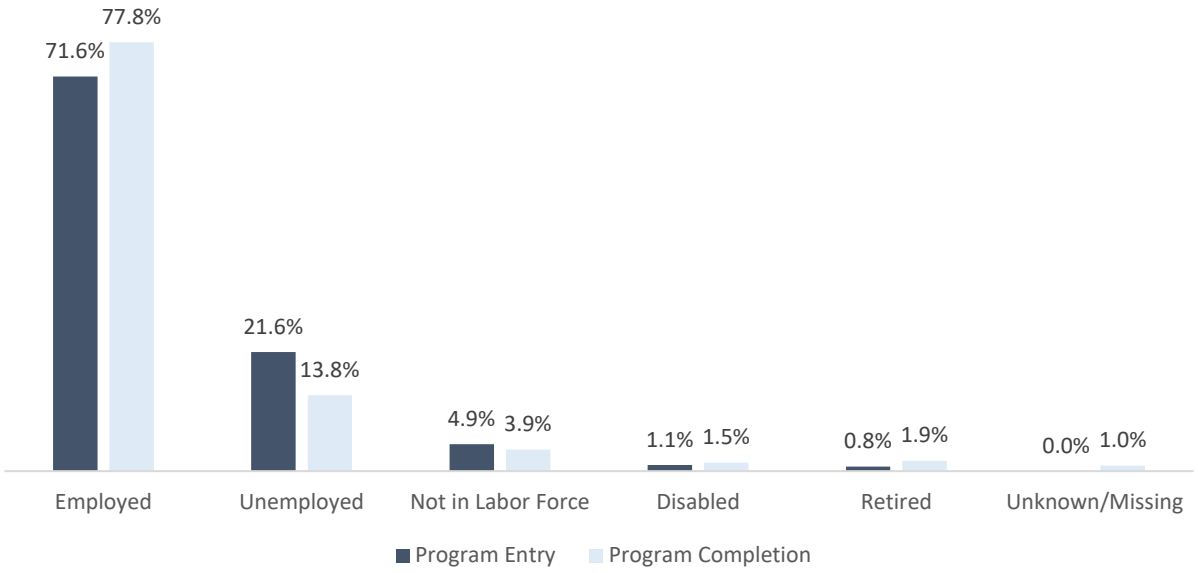
Table 29: In-Program Sobriety by Participant Closure Type

Type of program completion	Average Number of days to first positive screen N=1,087	Average # of positive drug/alcohol tests per participant N=1,087	Longest Period of Sobriety N=2,092
All participants	112.7	4.7	331.3
Graduates	134.6***	3.1***	421.6***
Non-Graduates	82.4	6.9	117.5

***Significant $p < .001$

Employment. *Figure 5* examines gains in employment, another key interim outcome area for participants in sobriety courts. Approximately 72 percent of all participants (graduates and non-graduates) entered the sobriety court program employed, while 77.8 percent of all participants left the sobriety court employed.

Figure 5: Percent of Sobriety Court Participants Employed at Program Entry and Program Completion



Among sobriety court graduates, the impact is more pronounced. Over 76 percent of participants who went on to graduate from the sobriety court program were employed at entry and 89.8 percent were employed at program completion (see *Figure 6*). Furthermore, as displayed in *Figure 7*, significantly more graduates (89.8 percent) were employed at program completion compared to non-graduates (49.9 percent), and significantly fewer graduates (3.5 percent) were unemployed at program completion compared to non-graduates (39.4 percent).

Figure 6: Percent of Sobriety Court Graduates Employed at Program Entry and Program Completion

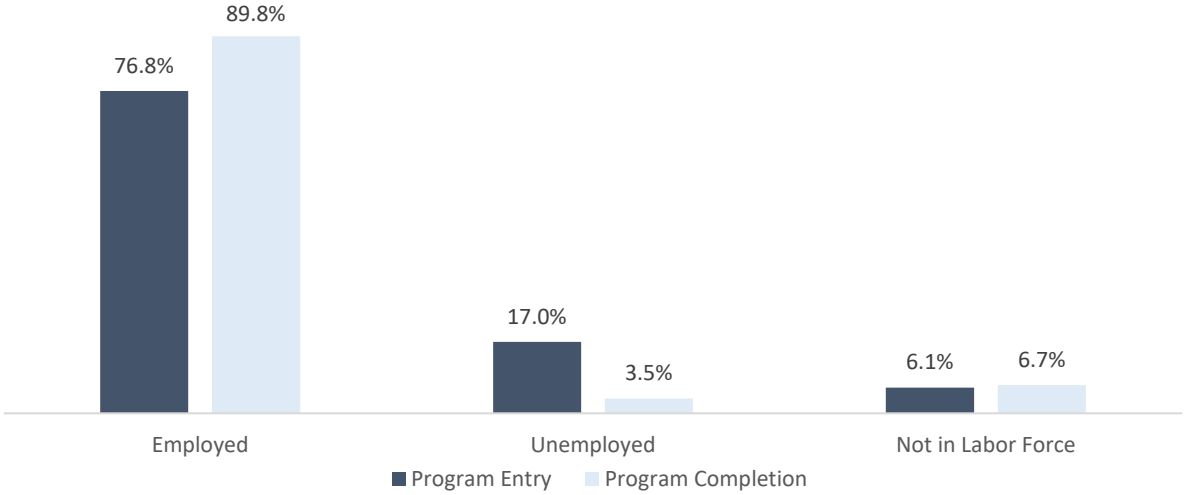
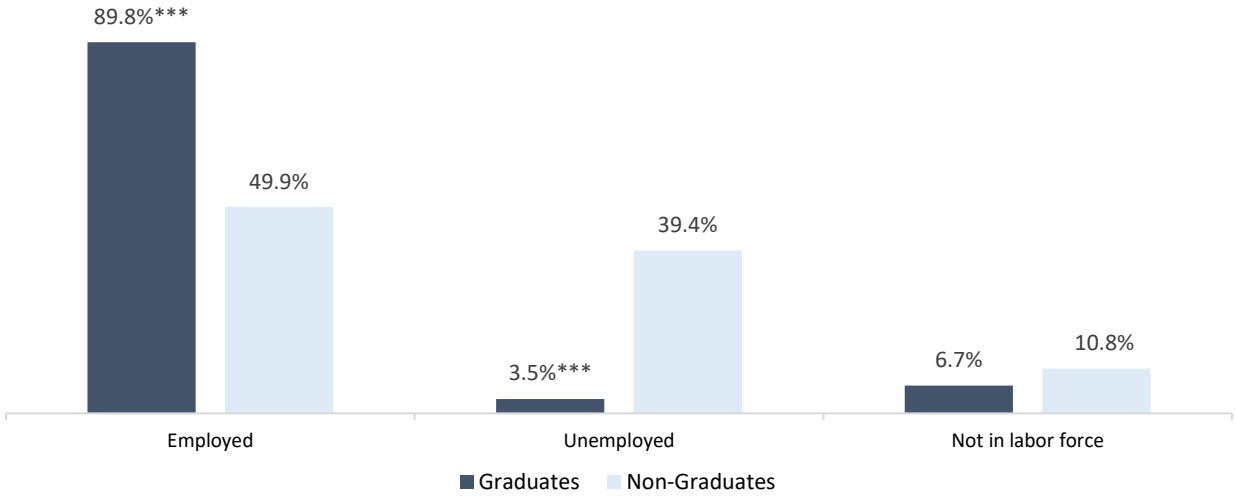


Figure 7: Percent of Sobriety Court Graduates and Non-Graduates Employed at Program Completion



***Significant $p < .001$

Conclusion. Over half of Michigan sobriety court participants tested positive for alcohol or drugs on at least one occasion during their participation in the program. Participants who went on to successfully complete their sobriety court program (1) tested positive at least once during the program significantly less often than non-graduates; (2) had significantly fewer positive drug tests during the program than non-graduates; (3) had a significantly longer period of time before their first positive screen compared to non-graduates; (4) had significantly fewer positive tests during their participation compared to non-graduates; and (5) had a significantly longer period of sobriety compared to non-graduates. Similarly, non-graduates had significantly more positive tests overall compared to graduates. Furthermore, successful participants experienced gains in employment between entry and exit more often than non-graduates. Although more participants were employed at program exit than entry, significantly fewer non-graduates were employed at program exit compared to graduates.

Predicting Successful Program Completion

Both qualities of the programs and characteristics of the participants may influence outcomes, such as successful program completion. To assess which program-level and individual-level variables predict successful program completion, the NCSC evaluation team conducted a hierarchical binary logistic regression, which first considered qualities of the program and then the characteristics of the participants. First, chi-square analyses, which assess the goodness-of-fit between expected and observed values, determined which program-level variables were related to program completion; program-level variables that were significantly related to program completion were included in the full model. The full chi-square analyses are in the *Technical Appendix: Detailed Analysis.* The program-level variables identified in the chi-square analyses and all individual-level variables were then included in the hierarchical binary logistic regression. Some program-level variables were fairly consistent across programs and therefore, were not good predictors of program completion. Not all program-level variables appear in the full models because when program-level variables were very similar across programs, they were excluded.

As displayed in *Tables 30* and *31* below, several program-level and individual-level variables significantly predicted successful program completion in the full model. Two program level variables (*Table* 30) and seven participant-level variables significantly predicted successful program completion (see *Table 31*). Regarding program-level variables and controlling for all other factors entered into the model, participants enrolled in rural programs are more likely to be successful completers while participants enrolled in programs with two or fewer treatment providers are less likely to successfully complete the sobriety court program. The full model is in *Technical Appendix: Detailed Analysis*.

Table 30: Program Variables Associated with Program Completion for Sobriety Court Participants

Program Variables	Impact	Significance Level *p*
Rural Courts	The odds of graduation for participants enrolled in a sobriety court that is rural are 952% higher than the odds of participants enrolled in an urban court.	< .001
Number of treatment providers	The odds of graduation for participants enrolled in a program with a greater number of treatment providers are 25% higher than the odds of participants enrolled in a sobriety court with two or fewer treatment providers.	.044

As shown in *Table 31*, seven participant-level variables predicted successful program completion when in the full model. Participants who were between the ages of 41 and 50 (compared to a participant who is under the age of 21); were employed at entry; with a low or medium proxy risk score (compared to a participant with a high proxy risk score); who spent at least 420 days in the program; and who did not attend residential treatment were more likely to graduate.

Table 31: Program Completion Participant Variables for Sobriety Court Participants

Participant Variables	Impact	Significance Level *p*
Age: 41-50	The odds of successful completion for a sobriety court participant who is between the ages of 41 and 50 are 246% higher than the odds of an otherwise similar sobriety court participant who is under the age of 21.	.029
Employment at entry	The odds of successful completion for a sobriety court participant who is employed at program entry are 96% higher than the odds of an otherwise similar sobriety court participant who is not employed at program entry.	.002
Proxy risk: low	The odds of successful completion for a sobriety court participant who is classified as low-risk (per proxy risk) are 79% higher than the odds of an otherwise similar sobriety court participant who is classified as medium-risk (per proxy risk).	.018
Proxy risk: high	The odds of successful completion for a sobriety court participant who is classified as high-risk (per proxy risk) are 68% lower than the odds of an otherwise similar sobriety court participant who is medium-risk (per proxy risk).	.006
Time in program	The odds of successful completion for a sobriety court participant who participates in the program for at least 420 days are 15 times higher compared to an otherwise similar sobriety court participant who participates for less than 420 days.	< .001
Residential treatment only	The odds of successful completion for a sobriety court participant who received only residential treatment while enrolled in the sobriety court are 97% lower than the odds of an otherwise similar sobriety court participant who participates in non-residential treatment.	.005.
Residential treatment plus intensive outpatient treatment	The odds of successful completion for a sobriety court participant who received residential treatment plus intensive outpatient treatment while enrolled in the sobriety court are 64% lower than the odds of an otherwise similar sobriety court participant who participates in non-residential treatment.	.016

Because the odds ratio was so large for *Time in program* in the model above, the NCSC evaluation team conducted a second hierarchical logistic regression. The second model included a continuous variable for time in program, which showed the odds of successful completion for participants who spent more time in court was 9 percent higher than the odds of successful completion for participants who spent less time in the program. The full model is in the *Technical Appendix: Detailed Analysis*.

Conclusion. Using hierarchical binary logistic regression, several program-level and individual-level variables predict successful or unsuccessful program completion, including the number of treatment providers; participating in residential treatment; participant proxy risk score; participant age; length of stay; and whether a participant is employed at the time of program entry.

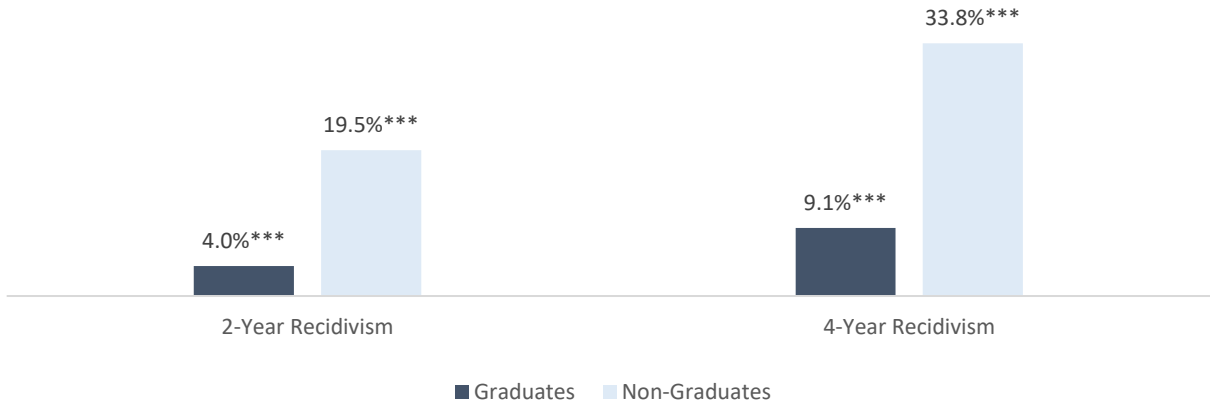
Recidivism Rates of the Sobriety Court Participants by Program Completion Type

One of the most important and interesting outcomes of a drug court program is the rate of participants reoffending during and after the program. The Michigan State Court Administrative Office (SCAO) defines recidivism with two definitions and in two timeframes. First, recidivism is broadly defined as *any new conviction* falling within the following offense categories: violent offenses; controlled substance use or possession; controlled substance manufacturing or distribution; other drug offenses; driving under the influence of drugs or alcohol first offense; driving under the influence of drugs or alcohol second offense; driving under the influence of drugs or alcohol third offense; other alcohol offenses; property offenses; breaking and entering or home invasion; nonviolent sex offenses; juvenile status offenses of incorrigible, runaway, truancy, or curfew violations; neglect and abuse civil; and neglect and abuse criminal.

Second, recidivism is narrowly defined as a *new drug or alcohol conviction* falling within the following categories: controlled substance use or possession; controlled substance manufacturing or distribution; other drug offenses; driving under the influence of drugs or alcohol first offense; driving under the influence of drugs or alcohol second offense; driving under the influence of drugs or alcohol third offense; and other alcohol offenses. Both the broad (all convictions) and narrow (drug and alcohol convictions) recidivism rates are calculated within two years and four years of entry into the sobriety court program. The following analysis reports recidivism rates under both definitions from both two and four years from entry. Because of the time from entry requirement, all recidivism analyses included only those sobriety court participants (and later their business-as-usual (BAU) comparisons) who had sufficient time from entry to recidivate.

Figure 8 displays the two-year and four-year recidivism rates for both sobriety court graduates and non-graduates. Within two years of entry, significantly fewer graduates (4.0 percent) reoffended compared to non-graduates (19.5 percent). The pattern remained the same within four years of admission, such that significantly fewer graduates (9.1 percent) reoffended compared to non-graduates (33.8 percent).

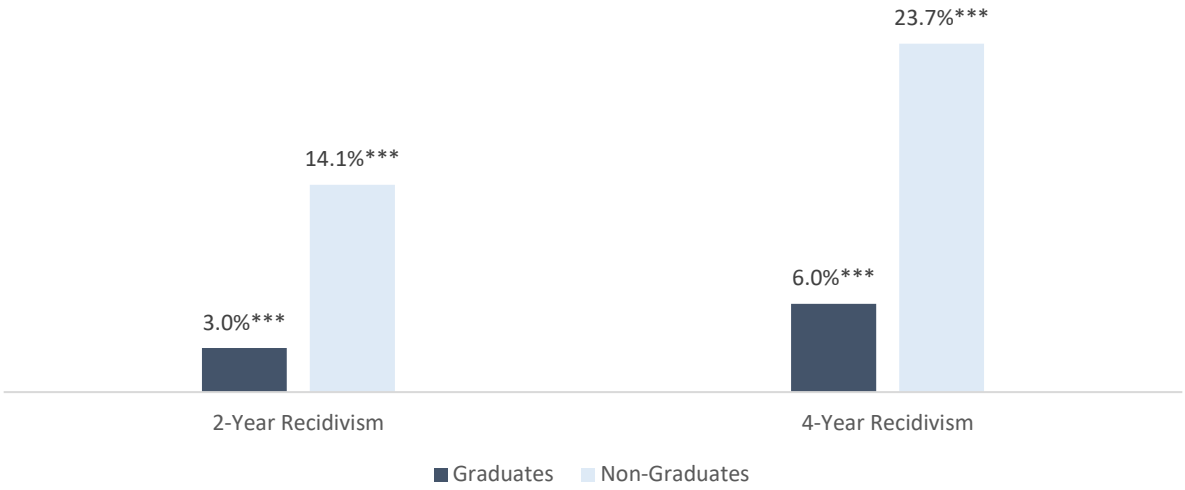
Figure 8: In Program Recidivism Rates of Graduates versus Non-Graduates



***Significant $p < .001$

Figure 9 shows the two-year and four-year recidivism rates for sobriety court graduates and non-graduates for drug and alcohol convictions. Within two years of entry, significantly fewer graduates (3.0 percent) reoffended compared to non-graduates (14.1 percent). The pattern remained the same within four years of entry, such that significantly fewer graduates (6.0 percent) reoffended with a drug or alcohol offense compared to non-graduates (23.7 percent).

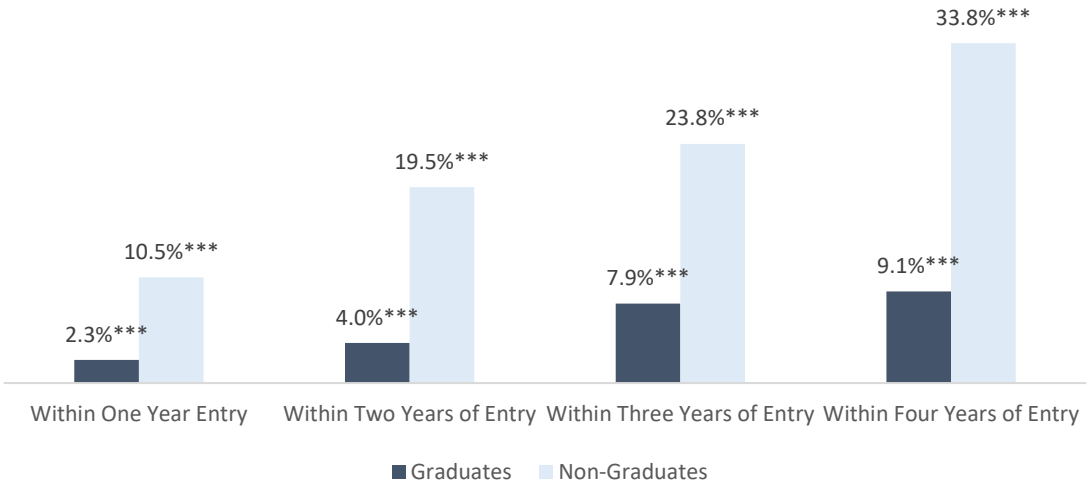
Figure 9: Sobriety Court Graduates' and Non-Graduates' Alcohol and Drug Offense Recidivism Rates



***Significant $p < .001$

Time to New Conviction Among Graduates and Non-Graduates. *Figure 10* shows that significantly more participants who went on to be non-graduates were reconvicted within one year of entry (10.5 percent) compared to graduates (2.3 percent). The pattern continues for convictions within two, three, and four years of entry such that significantly more non-graduates are consistently reconvicted compared to graduates.

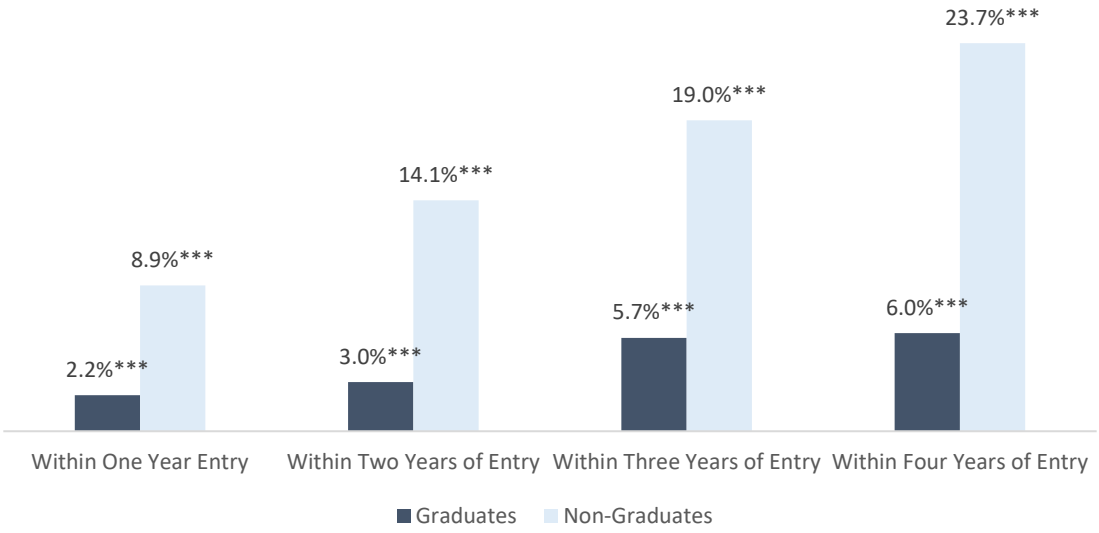
Figure 10: Time from Placement to New Conviction for Graduates versus Non-Graduates (All Convictions)



***Significant $p < .001$

Figure 11 shows the drug and alcohol reconviction rates of graduates and non-graduates at one, two, three, and four years from program entry. Like all reconvictions generally, significantly more non-graduates are consistently reconvicted of a drug or alcohol offense at all time points post-entry.

Figure 11: Time from Placement to New Conviction for Graduates versus Non-Graduates (Drug and Alcohol Convictions)



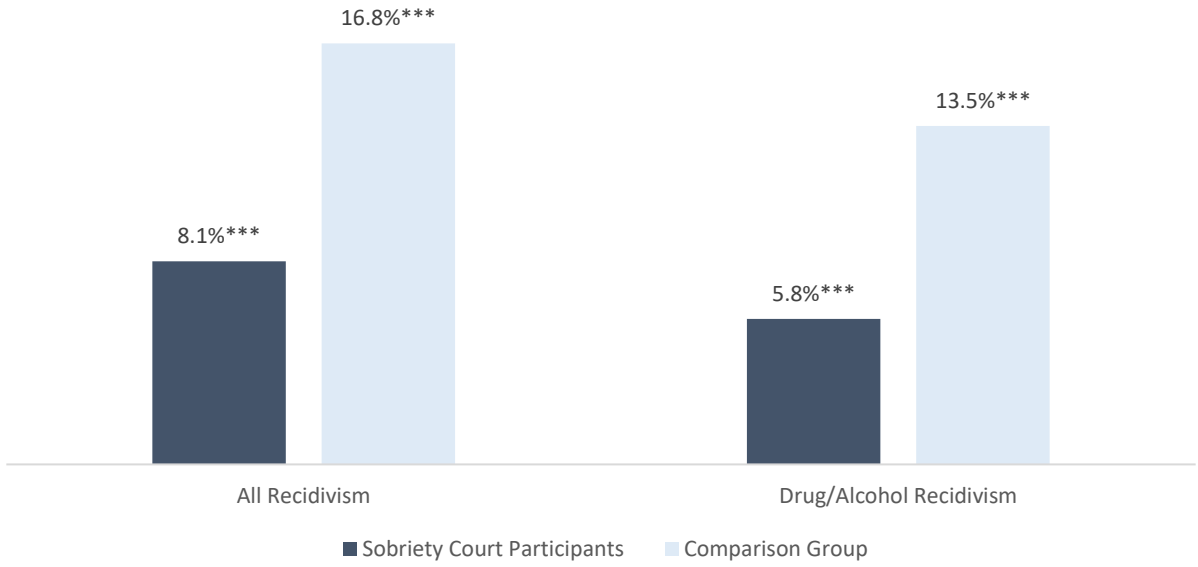
***Significant $p < .001$

Recidivism Rates of the Sobriety Court Participants Compared to Business-As-Usual

To accurately and practically examine recidivism rates among sobriety court participants, a matched comparison group was used. The Michigan SCAO uses the Judicial Data Warehouse to match each sobriety court participant to a comparison person. To be considered an accurate match, the comparison person must have a matching offense in the same county and court as the sobriety court participant; the comparison person must be the same gender, fall within the same age group, year of offense group, same offense category, and number of cases in the previous two years must fall within the same range as the sobriety court participant. To be matched to a sobriety court participant, the comparison group person must not have previously participated in any sobriety court program or had a violent offense on his or her record. Analyses examine whether the participant-comparison pair do not statistically differ from one another to ensure comparable matches. Any new offenses are reported to the SCAO for both the sobriety court participant and their matched BAU comparison person.

Only sobriety court participants who had a matched comparison person were included in the following analyses. *Figure 12* displays the two-year recidivism rates for sobriety court participants and their business as usual (BAU) comparisons. For all recidivism, significantly more BAU comparison people were reconvicted of an offense within two years of entry (16.8 percent) compared to sobriety court participants (8.1 percent). Similarly, for drug and alcohol recidivism, significantly more BAU comparison people were reconvicted of a drug or alcohol offense within two years of entry (13.5 percent) compared to sobriety court participants (5.8 percent).

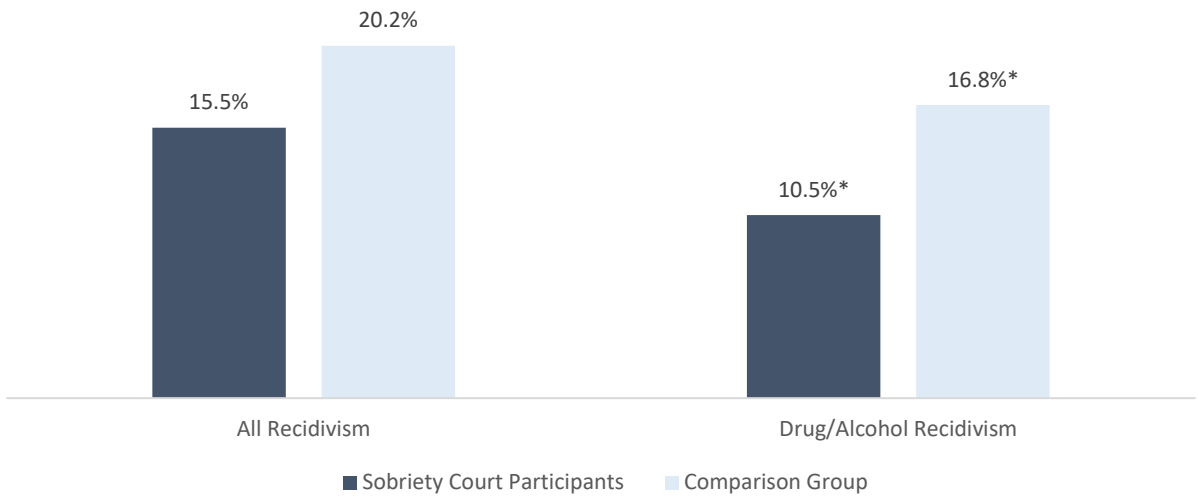
Figure 12: Two-Year Recidivism Rate for Sobriety Court Participants and Comparison Group



***Significant $p < .001$

For four-year recidivism rates**,** more BAU comparison people were reconvicted of an offense within four years of entry (20.2 percent) compared to sobriety court participants (15.5 percent) for all recidivism (see *Figure 13*)**.** Although this difference approached significance, it did not reach conventional levels. Regarding drug and alcohol recidivism specifically, significantly more BAU comparison people (16.8 percent) were reconvicted of a drug/alcohol offense within four years of entry compared to sobriety court participants (10.5 percent).

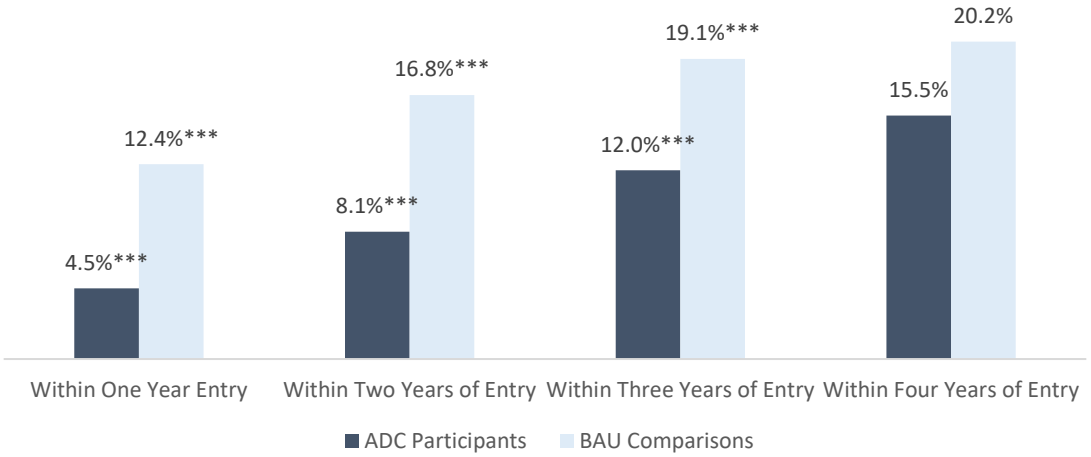
Figure 13: Four-Year Recidivism Rate for Sobriety Court Participants and Comparison Group



*Significant $p < .05$

Time to New Conviction Among Participants and Comparisons. *Figure 14* shows significantly more BAU comparison people were reconvicted within one year of entry (12.4 percent) compared to sobriety court participants (4.5 percent). The pattern continues for reconvictions within two and three years of entry such that significantly more BAU comparison people were consistently reconvicted compared to sobriety court participants. Although the difference at four years' post-entry approaches significance ($p = .07$) it does not reach conventional levels.

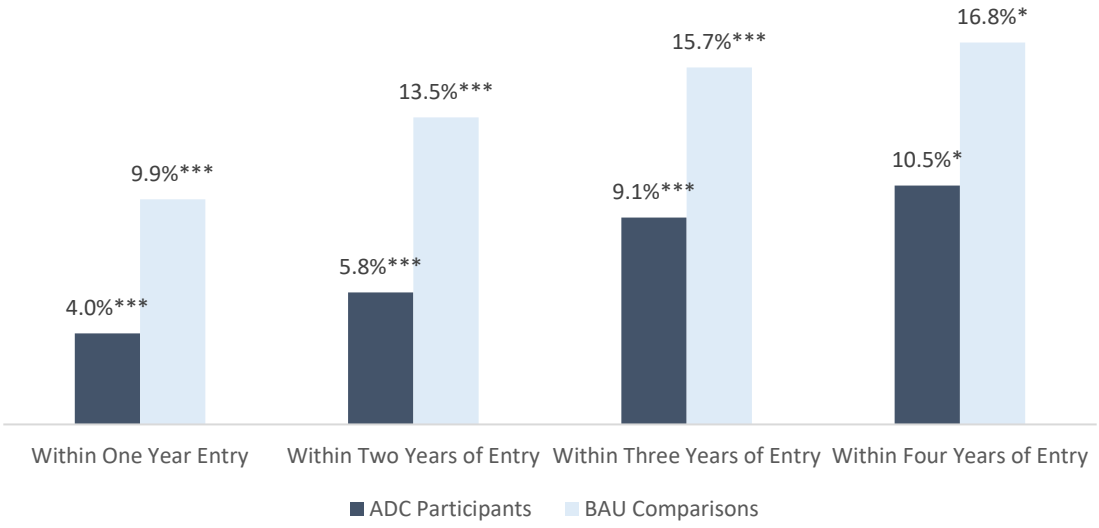
Figure 14: Time from Placement to New Conviction for Sobriety **Participants versus BAU Comparisons (All Convictions)**



***Significant p < .001

Figure 15 shows that significantly more BAU comparisons were reconvicted within one year of entry (9.9 percent) compared to sobriety court participants (4.0 percent). The pattern continues for alcohol or drug reconvictions within two, three, and four years of entry such that significantly more BAU comparisons were consistently reconvicted compared to sobriety court participants.

Figure 15: Time from Placement to New Conviction for Sobriety Court Participants versus BAU Comparisons (Drug and Alcohol Convictions)



***Significant *p* < .001 * *p* < .05

Predicting Recidivism

As with predicting successful program completion, the NCSC evaluation team conducted two hierarchical binary logistic regressions to assess which program-level and individual-level variables predict recidivism. First, chi-square analyses, which assess the goodness-of-fit between expected and observed values, determined which program-level variables were related to two-year and four-year recidivism; program-level variables that were significantly related to recidivism were included in the full models. The full chi-square analyses are in the *Technical Appendix: Detailed Analysis.* The program-level variables identified in the chi-square analyses and all individual-level variables were then included in two hierarchical binary logistic regressions – one to predict two-year recidivism and one to predict four-year recidivism. Because some program-level variables were extremely consistent across programs and therefore not good predictors, it was not uncommon for program-level variables to drop out of the models due to collinearity. Moreover, while the sample size of participants used in the recidivism models is large enough to conduct the evaluation analysis, a larger sample size may result in more robust findings.

Two-Year Recidivism

As displayed in *Table 32* below, eight individual-level variables significantly predicted two-year recidivism in the full model. No program characteristics significantly predicted two-year recidivism for sobriety court participants. Controlling for all other factors entered into the model, participants who were between 30 and 60 years old at entry (compared to participants younger than 30 at entry), not married, charged with a misdemeanor, did not received residential treatment, and successfully completed the program were less likely to recidivate within two years of entry. The full model predicting two-year recidivism is in the *Technical Appendix: Detailed Analysis*.

Table 32: Individual Variables Significantly Predicting Two-Year Recidivism for Sobriety Court Participants

Participant Characteristics	Impact	Significance Level *p*
Age: 31-40	The odds of recidivating within two years for a participant who is between the ages of 31 and 40 are 74% lower than the odds of recidivating within two years for an otherwise similar sobriety court participant who is under the age of 21.	.011
Age: 41-50	The odds of recidivating within two years for a participant who is between the ages of 41 and 50 are 87% lower than the odds of recidivating within two years for an otherwise similar sobriety court participant who is under the age of 21.	.001
Age: 51-60	The odds of recidivating within two years for a participant who is between the ages of 51 and 60 are 91% lower than the odds of recidivating within two years for an otherwise similar sobriety court participant who is under the age of 21.	< .001

Participant Characteristics	Impact	Significance Level *p*
Marital status	The odds of recidivating within two years for a participant who is married at entry are 252% higher than the odds of recidivating within two years for an otherwise similar sobriety court participant who is unmarried.	< .001
Offense type - felony	The odds of recidivating within two years for a participant who is placed in the program on a felony are 542% higher than the odds of recidivating within two years for an otherwise similar sobriety court participant who is not charged with a felony.	< .001
Residential treatment only	The odds of recidivating within two years for a participant who received only residential treatment while enrolled in the sobriety court are 456% higher than the odds of recidivating within two years for an otherwise similar sobriety court participant who participates in non-residential treatment.	.048
Residential treatment plus intensive outpatient treatment	The odds of recidivating within two years for a participant who received residential treatment plus intensive outpatient treatment while enrolled in the sobriety court are 313% higher than the odds of recidivating within two years for an otherwise similar sobriety court participant who participates in non-residential treatment.	.002
Successful completion	The odds of recidivating within two years for a participant who successfully completes the program are 74% lower than the odds of recidivating within two years for an otherwise similar sobriety court participant who does not graduate.	< .001

The NCSC team conducted a binary logistic regression to examine the extent to which participant type (participant versus BAU) and proxy risk category predict two-year recidivism. Generally, BAU comparisons were significantly more likely to reoffend within two years of entry compared to sobriety court participants; low-risk participants and comparisons were significantly less likely to reoffend within two years compared to medium-risk participants and comparisons; and high-risk participants and comparisons were more likely to reoffend within two years compared to medium-risk participants and comparisons. The results were consistent when we weighted proxy risk category so that perfect proxy risk matches between participants and comparisons took precedent in the model. The full regression model is in the *Technical Appendix: Proxy Risk Scoring*.

Four-Year Recidivism

As displayed in Tables 33 and 34 below, one program-level variable and three individual-level variables significantly predicted four-year recidivism in the full model. Controlling for all other factors included in the model, participants in programs with the requirement that participants have at least weekly contact with supervision in Phase 1 are less likely to recidivate within four years of program entry. The full model is in the *Technical Appendix: Detailed Analysis*.

Table 33: Program Variables Associated with Four-Year Recidivism for Sobriety Court Participants

Program Variables	Impact	Significance Level *p*
Requirement to have at least weekly contact with supervision officer in Phase 1	The odds of recidivating within four years for participants enrolled in a sobriety court that has a program requirement to have at least weekly contact with a supervision officer are 71% lower than the odds of recidivating within four years for participants enrolled in a sobriety court that does not require a minimum of at least weekly contact with a supervision officer.	.042

Regarding individual-level variables and controlling for all other factors entered into the model, participants who were not married, entered the program with a misdemeanor charge, and successfully completed the program were less likely to recidivate within four years of entry.

Table 34: Participant Variables Significantly Predicting Four-Year Recidivism for Sobriety Court Participants

Participant Characteristics	Impact	Significance Level *p*
Marital Status	The odds of recidivating within four years for participants who are married at the time of program entry are 246% higher than the odds of recidivating within four years for participants enrolled in a sobriety court who are not married at the time of program entry.	.001
Charge at entry - felony	The odds of recidivating within four years for participants who enter the sobriety court on a felony charge are 261% higher than the odds of recidivating within four years for participants enrolled in a sobriety court on a misdemeanor offense.	.006
Discharge status - successful	The odds of recidivating within four years for participants who successfully complete the sobriety court are 75% lower than the odds of recidivating within four years for participants who are discharged from the sobriety court unsuccessfully.	< .001

The NCSC team also conducted a binary logistic regression to examine the extent to which participant type (participant versus BAU) and proxy risk category predict four-year recidivism. Generally, BAU comparisons were significantly more likely to reoffend within four years of entry compared to sobriety court participants; and low-risk participants and comparisons were significantly less likely to reoffend within four years compared to medium-risk participants and comparisons. High-risk participants and comparisons were more likely to reoffend within four years compared to medium-risk participants and comparisons at a level approaching significance. The results were consistent, although only approaching significance, when we weighted proxy risk category. The full regression model is in the *Technical Appendix: Proxy Risk Scoring*.

Recommendations

Recommendation 1: Adjust the current matching process to include proxy risk variables.

The Michigan State Court Administrative Office (SCAO) compiles data from the Drug Court Case Management Information System (DCCMIS) in the Judicial Data Warehouse, which allows SCAO to match drug court participants to a comparable probationer. In order to be matched to a drug court participant, the comparison person must match the participant on (1) an offense in the same court and county; (2) gender; (3) age range; (4) year of offense range; (5) current offense category; and (6) the number of court cases in the previous two years. The potential comparison person must not (1) have participated in a drug court program previously or (2) have a violent offense on his or her record. Once a match is made, the pair is statistically compared to ensure they are comparable. Comparable pairs are matched in the system and any and all new offenses are recorded.

Although the matching process ensures participants and their comparisons are matched on geography (court), some demographic factors (gender and age group), criminal history factors (number of cases two years prior and no violent offense history), and offense types (current offense category and year range), it does not match participant-comparison pairs on all elements of risk. In the current assessment, NCSC evaluators created a proxy risk score for each participant and his or her comparison person based on (1) age at placement (either drug court or probation); (2) age at first adult arrest; and (3) number of prior adult arrests. This system allowed NCSC to identify participants and comparisons as high-, medium-, or low-risk at entry, and analyses showed that approximately only 50 percent of the participant-comparison pairs perfectly matched on proxy risk score. To sum up, even though participants are comparable on geography, demographic factors, and criminal offense factors, that is only the first step to ensuring comparable participant-comparison pairs.

In order to adjust the current matching process to account for participant and comparison risk, additional information could be gathered in the Judicial Data Warehouse, including factors for age at placement, age at first arrest (including juvenile arrests if possible), and number of prior arrests (including juvenile arrests if possible). Short of including a statewide risk-needs assessment (as discussed below), including these factors in the matching process is the next best option to better ensure the participant-comparison pairs are comparable in risk.

Recommendation 2: Adopt a statewide risk-needs instrument.

A substantial body of research shows drug courts that focus on high-risk/high-need defendants reduce crime approximately twice as much as those serving less serious defendants (Cissner et al., 2013; Fielding et al., 2002; Lowenkamp et al., 2005) and return approximately 50 percent greater cost savings to their communities (Bhati et al., 2008; Carey et al., 2008, 2012; Downey & Roman, 2010).

Criminogenic risk refers to the probability that a person under criminal justice supervision will reoffend at some time in the future and is, by definition, highly correlated with outcomes. Typically, third- and fourth-generation instruments used to assess criminogenic risk use both *static* factors, which are fixed and invariant (e.g., age of first arrest) and *dynamic* factors that are subject to change and are also

referred to as criminogenic needs (see below) (Andrews, Bonta, & Wormith, 2006). Drug courts should target high-risk/high-need offenders (NADCP, 2013: Best Practice Standard I).

Criminogenic needs are conditions or statuses of offenders that increase their risk for reoffending and that should be addressed in case management planning (Andrews et al., 2006). For example, Andrews and Associates identify eight primary criminogenic needs (history of antisocial behavior, antisocial personality pattern, antisocial cognition, antisocial associates, family and/or marital, school and/or work, leisure and/or recreation, and substance abuse) while other researchers identify other needs such as financial problems and social adjustment (Northpointe, 2012). Many instruments (e.g., LS/CMI, LIS-R, COMPAS, ORAS) are used to assess and provide scores that reflect the magnitude of criminogenic needs and these scores are related to outcomes, some more strongly than others.

To ensure court programs best identify and serve the high-risk/high-need population and reduce recidivism, NCSC recommends the adoption of a validated, statewide risk-needs assessment for both sobriety court participants and probationers in general. Not only would the use of a validated risk assessment instrument allow for better matching between sobriety court participants and their comparisons, it would also allow staff to better create case management, treatment, and supervision plans, taking into account participants' individual needs and risk level.

Recommendation 3: Assess the use and effectiveness of residential treatment.

Due to the interesting findings surrounding residential treatment, the NCSC evaluation team recommends an examination of who is receiving residential treatment and to what extent the treatment is above or below their ASAM criteria level, to what extent participants who receive residential treatment successfully complete it, and the current practices of residential treatment providers.

First, NCSC recommends that further investigation be made into who is receiving what level of treatment and why it is warranted to determine the impact on outcomes. In some instances, participants received residential treatment even though it is below or exceeds their ASAM criteria level.

Second, the NCSC evaluation team recommends a quality assurance assessment of treatment providers to ensure evidence-based practices are present and being accurately utilized. As previously discussed in this report, drug court treatment produces its strongest effect on participant behavior and subsequent outcomes when it reflects the following characteristics: (1) a continuum of care for substance abuse treatment is offered (including detoxification, residential, sober living, day treatment, intensive outpatient and outpatient services); (2) one or two treatment agencies have primary responsibility for delivering treatment services and clinically trained representatives from these agencies are core members of the Drug Court Team; (3) treatment providers administer treatments that are manualized and demonstrated to improve outcomes for addicted offenders (e.g., Moral Reconation Therapy (MRT),the MATRIX model, and Multi-Systemic Therapy (MST); Marlowe, 2010); (4) participants are assigned to a level of care based on a standardized assessment of their treatment needs such as the ASAM criteria as opposed to relying on professional judgment; and (5) participants have access to prescribed psychotropic or addiction medications (Medically-Assisted Treatment or MAT) when warranted (National Association of Drug Court Professionals [NADCP], 2013; Best Practice Standard V).

The regression model predicting successful program completion showed that sobriety court participants who received residential treatment (either solely or in combination with outpatient treatment) were less likely to successfully complete and were more likely to reoffend within two years of entry. Investigation and quality assurance assessment into residential treatment practices should help explain the effects of residential treatment.

Finally, we know that residential treatment plays an important role in long-term outcomes, but one piece of the residential treatment puzzle is missing. Specifically, we do not know who successfully completed and who unsuccessfully completed residential treatment. Providing researchers with access to the data related to treatment completion type (successful or unsuccessful) may shed additional light on the findings related to residential treatment.

Appendix A: Explanation of Offense Categories

Table 35: Explanation of Offense Categories

Offense Category	Examples of Offenses within this Category
Drug Related	Controlled Substance Use/Possession Controlled Substance Manufacturing/Distribution Other Drug Offense
Alcohol Related	DUI of Alcohol/C.S. 1st DUI of Alcohol/C.S. 2nd DUI of Alcohol/C.S. 3rd Other Alcohol Offense
Juvenile	Juvenile Status Offense – Incorrigible Juvenile Status Offense – Runaway Juvenile Status Offense – Truancy Juvenile Status Offense – Curfew Violation
Neglect/Abuse	Neglect and Abuse Civil Neglect and Abuse Criminal
Other	Breaking and Entering/Home invasion Property Offense Non-violent traffic offense (criminal) Other traffic offense (criminal)

Technical Appendix: Detailed Analysis

Table 36: Program Variables included in Models

Program Variable	Description
Program Capacity > 40	Programs with capacity ≤ 40 = 0 Programs with capacity > 40 participants = 1
Program Maturity	Programs operational < 10 years = 0 Programs operation ≥ 10 years = 1
Average Length of Stay (LOS) < 12 Months	Programs with LOS ≥ 12 months = 0 Programs with LOS < 12 months = 1
Average Time from Arrest to Treatment < 90 Days	Programs with average time from arrest to treatment ≥ 90 days = 0 Programs with average time from arrest to treatment < 90 days =1
Require Weekly Court Attendance in Phase 1	Programs that do not require weekly court attendance in Phase 1 = 0 Programs that require weekly court attendance in Phase 1 = 1
Require Weekly Supervision Contact in Phase 1	Programs that do not require weekly supervision contact in Phase 1 = 0 Programs that require weekly supervision contact in Phase 1 = 1
Require Daily AA in Phase 1	Programs that do not require daily AA/NA in Phase 1 = 0 Programs that require daily AA/NA in Phase 1 = 1
Law Enforcement Officer Attends Court	Programs in which law enforcement does not attend court = 0 Programs in which law enforcement attends court = 1
Prosecutor & Defense Attend Staffing	Programs in which attorneys do not attend staffing = 0 Programs in which attorneys attend staffing = 1
Prosecutor & Defense Attend Court	Programs in which attorneys do not attend court = 0 Programs in which attorneys attend court = 1
No More than Two Treatment Providers	Programs with three or more treatment providers = 0 Programs with no more than two treatment providers = 1
Maintains at Least 4:1 Incentive to Sanction Ratio	Programs that do not maintain at least a 4:1 incentive to sanction ratio = 0 Programs that maintain at least a 4:1 incentive to sanction ratio = 1
Alcohol Tests Twice Weekly in Phase 1	Programs that do not test for alcohol twice weekly in Phase 1 = 0 Programs that test for alcohol twice weekly in Phase 1 = 1
Drug Tests Twice Weekly in Phase 1	Programs that do not test for drugs twice weekly in Phase 1 = 0 Programs that test for drugs twice weekly in Phase 1 = 1
Uses Remote Testing	Programs that do not use remote testing = 0

Program Variable	Description
	Programs that use remote testing = 1
Requires Four Months Sobriety to Complete	Programs that do not require four months of sobriety to complete = 0 Programs that require four months of sobriety to complete = 1
Court Location – Rural	Suburban or Urban programs = 0 Rural programs = 1

Table 37: Demographic Variables

Participant Factors	Explanation
Gender (compared to male)	Male = 0 Female = 1
Age Group (compared to < 21)	< 21 years old at entry = 0 21 – 30 years old at entry = 1 31 – 40 years old at entry = 2 41 – 50 years old at entry = 3 51 – 60 years old at entry = 4 > 60 years old at entry = 5
Race (compared to White)	White = 0 Black = 1 Other Non-White = 2
Drug of Choice Collapsed (compared to Opiates/Heroin)	Opiates/Heroin = 0 Alcohol = 1 Methamphetamine/Amphetamines = 2 Other = 3
Marital Status (compared to Non-Married)	Non-Married = 0 Married = 1
Employment at Entry (compared to unemployed)	Unemployed = 0 Employed = 1
Placement Offense Category (compared to Drug)	Drug = 0 Property = 1 Other = 2
Prior Convictions	No prior convictions = 0 Prior convictions = 1
Proxy Risk Category (compared to Medium Risk)	Medium Risk = 0 Low Risk = 1 High Risk = 2
Total Number of Treatment Hours (compared to < 100 hours)	< 100 hours = 0 100 – 200 hours = 1 > 200 hours = 2
Mental Health History	No mental health history = 0 Mental health history = 1
Number of Days in Court (Median Split)	< 420 days = 0 > 419 days = 1
Drug Tested Twice Per Week on Average	Not tested twice per week on average = 0 Tested twice per week on average =1
Substance Abuse Treatment Groups (compared to Non-Residential Only)	Non-Residential Only = 0 Residential Only = 1 Both Residential and Non-Residential = 2

COMPLETION MODEL – Sobriety Courts

Table 38: Chi-Square Analyses Assessing Which Program-Level Variables Are Related to Successful Program Completion (N=2,018)

Program Variables	Completion					
	Non-Graduates		Graduates		Total	
	#	%	#	%	#	%
Program Capacity > 40 *Significant:* X^2 (1, N=2,018) = 6.41, p = .011						
No	97	22.6%	332	77.4%	429	100.0%
Yes	457	28.8%	1,132	71.2%	1,589	100.0%
Program Maturity *Significant:* X^2 (1, N=2,018) = 26.21, p < .001						
No	141	20.4%	550	79.6%	691	100.0%
Yes	413	31.1%	914	68.9%	1,327	100.0%
Average Length of Stay < 12 Months *Significant:* X^2 (1, N=2,018) = 16.67, p < .001						
No	435	25.0%	1,259	74.3%	1,694	100.0%
Yes	119	36.7%	205	63.3%	324	100.0%
Average Phase 1 Length of Stay < 5 Months X^2 (1, N=2,018) = 2.11, p = .147						
No	93	30.9%	208	69.1%	301	100.0%
Yes	461	26.8%	1,256	73.2%	1,717	100.0%
Average Arrest to Tx < 90 Days X^2 (1, N=1,715) = 0.23, p = .631						
No	266	28.9%	655	71.1%	921	100.0%
Yes	221	27.8%	573	72.2%	794	100.0%
Require Weekly Court Attendance in Phase 1 X^2 (1, N=2,018) = 1.82, p = .177						
No	532	27.2%	1,423	72.8%	1,955	100.0%
Yes	22	34.9%	41	65.1%	63	100.0%
Require Weekly Supervision Contact in Phase 1 X^2 (1, N=1,981) = 0.9, p = .766						
No	43	26.7%	118	73.3%	161	100.0%
Yes	506	27.8%	1,314	72.2%	1,820	100.0%
Require Daily AA in Phase 1 *Significant:* X^2 (1, N=1,953) = 10.51, p = .001						
No	451	29.4%	1,082	70.6%	1,533	100.0%
Yes	90	21.4%	330	78.6%	420	100.0%
Law Enforcement Attends Court X^2 (1, N=2,018) = 2.01, p = .156						
No	446	28.2%	1,136	71.8%	1,582	100.0%
Yes	108	24.8%	328	75.2%	436	100.0%
Prosecutor & Defense Attend Staffing X^2 (1, N=2,018) = 1.24, p = .266						
No	242	26.2%	680	73.8%	922	100.0%
Yes	312	28.5%	784	71.5%	1,096	100.0%
Prosecutor & Defense Attend Court X^2 (1, N=2,018) = 3.27, p = .071						
No	246	25.6%	716	74.4%	962	100.0%

Program Variables	Completion					
	Non-Graduates		Graduates		Total	
	#	%	#	%	#	%
Yes	308	29.2%	748	70.8%	1,056	100.0%
No More than Two Treatment Providers *Significant:* X^2 (1, N=2,018) = 7.35, p = .007						
No	298	25.2%	885	74.8%	1,183	100.0%
Yes	256	30.7%	579	69.30%	835	100.0%
Maintains at Least 4:1 Incentive to Sanction Ratio N/A						
No	0	0.0%	0	0.0%	0	0.0%
Yes	526	28.5%	1,322	71.%	1,848	100.0%
Alcohol Tests Twice Weekly in Phase 1 *Significant:* X^2 (1, N=2,018) = 18.74, p < .001						
No	270	32.6%	558	67.4%	828	100.0%
Yes	284	23.9%	906	76.1%	1,190	100.0%
Drug Tests Twice Weekly in Phase 1 *Significant:* X^2 (1, N=1,942) = 6.28, p = .012						
No	181	23.5%	590	76.5%	771	100.0%
Yes	335	28.6%	836	71.4%	1,171	100.0%
Uses Remote Testing *Significant:* X^2 (1, N=2,018) = 15.36, p < .001						
No	364	30.7%	821	69.3%	1,185	100.0%
Yes	190	22.8%	643	77.2%	833	100.0%
Requires Four Months Sobriety to Complete X^2 (1, N=1,785) = 0.44, p = .507						
No	310	26.6%	855	73.4%	1,165	100.0%
Yes	156	25.2%	464	74.8%	620	100.0%
Court Location – Rural *Significant:* X^2 (1, N=2,018) = 11.07, p = .001						
No	509	28.7%	1,266	71.3%	1,775	100.0%
Yes	45	18.5%	198	81.5%	243	100.0%

As a result of the above analysis, NCSC included all independent variables that had a significant chi-square into the regression model. Program-level variables entered included:

- Program Capacity
- Program Maturity
- Average Length of Stay < 12 Months
- Require Daily AA in Phase 1
- Court has No More than Two Treatment Providers
- Alcohol Tests at Least Twice Weekly in Phase 1
- Drug Tests at Least Twice Weekly in Phase 1
- Uses Remote Testing
- Court Location Type – Rural

Table 39: Chi-Square Analyses Assessing Which Program-Level Variables Are Related to Two-Year Recidivism

Program Variables	Two-Year Recidivism					
	Participants Did Not Recidivate		Participants Recidivated		Total	
	#	%	#	%	#	%
Program Capacity > 40						
Significant: X^2 (1, N=1,1449) = 10.68, p = .001						
No	442	88.9%	55	11.1%	497	100.0%
Yes	893	93.8%	59	6.2%	952	100.0%
Program Maturity						
X^2 (1, N=1,449) = 2.58, p = .108						
No	610	90.9%	61	9.1%	671	100.0%
Yes	725	93.2%	53	6.8%	778	100.0%
Average Length of Stay < 12 Months						
X^2 (1, N=1,449) = 2.89, p = .089						
No	1,301	92.3%	108	7.7%	1,409	100.0%
Yes	34	85.0%	6	15.0%	40	100.0%
Average Phase 1 Length of Stay < 5 Months						
X^2 (1, N=1,449) = 3.40, p = .065						
No	361	90.0%	40	10.0%	401	100.0%
Yes	974	92.9%	74	7.1%	1,048	100.0%
Average Arrest to Tx < 90 Days						
X^2 (1, N=1,232) = 3.22, p = .073						
No	571	90.3%	61	9.7%	632	100.0%
Yes	559	93.2%	41	6.8%	600	100.0%
Require Weekly Court Attendance in Phase 1						
X^2 (1, N=1,449) = 0.56, p = .456						
No	1,281	92.0%	111	8.0%	1,392	100.0%
Yes	54	94.7%	3	5.3%	57	100.0%
Require Weekly Supervision Contact in Phase 1						
X^2 (1, N=1,416) = 0.32, p = .858						
No	90	91.8%	8	8.2%	98	100.0%
Yes	1,217	92.3%	101	7.7%	1,318	100.0%
Require Daily AA in Phase 1						
X^2 (1, N=1,407) = 2.48, p = .115						
No	866	92.9%	66	7.1%	932	100.0%
Yes	430	90.5%	45	9.5%	475	100.0%
Law Enforcement Attends Court						
X^2 (1, N=1,449) = 0.16, p = .690						
No	1,029	92.3%	86	7.7%	1,115	100.0%
Yes	306	91.6%	28	8.4%	334	100.0%
Prosecutor & Defense Attend Staffing						
X^2 (1, N=1,449) = 0.12, p = .729						
No	608	92.4%	50	7.6%	658	100.0%

Program Variables	Two-Year Recidivism					
	Participants Did Not Recidivate		Participants Recidivated		Total	
	#	%	#	%	#	%
Yes	727	91.9%	64	8.1%	791	100.0%
Prosecutor & Defense Attend Court						
X^2 (1, N=1,449) = 0.48, p = .490						
No	611	91.6%	56	8.4%	667	100.0%
Yes	724	92.6%	58	7.4%	782	100.0%
No More than Two Treatment Providers						
X^2 (1, N=1,449) = 0.05, p = .826						
No	794	92.0%	69	8.0%	863	100.0%
Yes	541	92.3%	45	7.7%	586	100.0%
Maintains at Least 4:1 Incentive to Sanction Ratio						
N/A						
No	0	0.0%	0	0.0%	0	0.0%
Yes	1,203	91.6%	110	8.4%	1,313	100.0%
Alcohol Tests Twice Weekly in Phase 1						
X^2 (1, N=1,449) = 0.29, p = .589						
No	359	92.8%	28	7.2%	387	100.0%
Yes	976	91.9%	86	8.1%	1,062	100.0%
Drug Tests Twice Weekly in Phase 1						
Significant: X^2 (1, N=1,399) = 4.09, p = .043						
No	577	93.5%	40	6.5%	617	100.0%
Yes	708	90.5%	74	9.5%	782	100.0%
Uses Remote Testing						
X^2 (1, N=1,449) = 0.00, p = .982						
No	587	92.2%	50	7.8%	637	100.0%
Yes	748	92.1%	64	7.9%	812	100.0%
Requires Four Months Sobriety to Complete						
X^2 (1, N=1,296) = 0.05, p = .825						
No	778	91.9%	69	8.1%	847	100.0%
Yes	414	92.2%	35	7.8%	449	100.0%
Court Location – Rural						
X^2 (1, N=1,449) = 0.24, p = .628						
No	1,174	92.0%	102	8.0%	1,276	100.0%
Yes	161	93.1%	12	6.9%	173	100.0%

As a result of the above analysis, NCSC included all independent variables that had a significant chi-square into the regression model. Program-level variables entered included:

Program Capacity
Drug Tests at Least Twice Weekly in Phase 1

FOUR-YEAR RECIDIVISM – Sobriety Courts

Table 40: Chi-Square Analyses Assessing Which Program-Level Variables Are Related to Four-Year Recidivism

Program Variables	Four-Year Recidivism					
	Participants Did Not Recidivate		Participants Recidivated		Total	
	#	%	#	%	#	%
Program Capacity > 40 X^2 (1, N=545) = 2.31, p = .129						
No	176	81.1%	41	18.9%	217	100.0 %
Yes	282	86.0%	46	14.0%	328	100.0 %
Program Maturity X^2 (1, N=545) = 0.17, p = .684						
No	205	83.3%	41	16.7%	246	100.0 %
Yes	253	84.6%	46	15.4%	299	100.0 %
Average Length of Stay < 12 Months X^2 (1, N=545) = 1.94, p = .164						
No	445	84.4%	82	15.6%	527	100.0 %
Yes	13	72.2%	5	27.8%	18	100.0 %
Average Phase 1 Length of Stay < 5 Months X^2 (1, N=545) = 1.73, p = .188						
No	131	80.9%	31	19.1%	162	100.0 %
Yes	327	85.4%	56	14.6%	383	100.0 %
Average Arrest to Tx < 90 Days X^2 (1, N=469) = 1.07, p = .301						
No	193	82.5%	41	17.5%	234	100.0 %
Yes	202	86.0%	33	14.0%	235	100.0 %
Require Weekly Court Attendance in Phase 1 X^2 (1, N=545) = 0.44, p = .505						
No	439	84.3%	82	15.7%	521	100.0 %
Yes	19	79.2%	5	20.8%	24	100.0 %
Require Weekly Supervision Contact in Phase 1 *Significant:* X^2 (1, N=531) = 3.62, p = .057						
No	24	72.7%	9	27.3%	33	100.0

Program Variables	Four-Year Recidivism					
	Participants Did Not Recidivate		Participants Recidivated		Total	
	#	%	#	%	#	%
						%
Yes	424	85.1%	74	14.9%	498	100.0 %
Require Daily AA in Phase 1 X^2 (1, N=545) = 0.90, p = .343						
No	297	83.0%	61	17.0%	358	100.0 %
Yes	161	86.1%	26	13.9%	187	100.0 %
Law Enforcement Attends Court X^2 (1, N=545) = 0.02, p = .894						
No	355	83.9%	68	16.1%	423	100.0 %
Yes	103	84.4%	19	15.6%	122	100.0 %
Prosecutor & Defense Attend Staffing X^2 (1, N=545) = 0.21, p = .650						
No	209	83.3%	42	16.7%	251	100.0 %
Yes	249	84.7%	45	15.3%	294	100.0 %
Prosecutor & Defense Attend Court X^2 (1, N=545) = 1.24, p = .266						
No	202	82.1%	44	17.9%	246	100.0 %
Yes	256	85.6%	43	14.4%	299	100.0 %
No More than Two Treatment Providers X^2 (1, N=545) = 0.00, p = .953						
No	288	84.0%	55	16.0%	343	100.0 %
Yes	170	84.2%	32	15.8%	202	100.0 %
Maintains at Least 4:1 Incentive to Sanction Ratio N/A						
No	0	0.0%	0	0.0%	0	0.0%
Yes	418	83.6%	82	16.4%	500	100.0 %
Alcohol Tests Twice Weekly in Phase 1 X^2 (1, N=545) = 0.48, p = .490						
No	127	85.8%	21	14.2%	148	100.0

Program Variables	Four-Year Recidivism					
	Participants Did Not Recidivate		Participants Recidivated		Total	
	#	%	#	%	#	%
						%
Yes	331	83.4%	66	16.6%	397	100.0 %
Drug Tests Twice Weekly in Phase 1 X^2 (1, N=521) = 0.70, p = .403						
No	188	85.5%	32	14.5%	220	100.0 %
Yes	249	82.7%	52	17.3%	301	100.0 %
Uses Remote Testing X^2 (1, N=545) = 0.00, p = .999						
No	200	84.0%	38	16.0%	238	100.0 %
Yes	258	84.0%	49	16.0%	307	100.0 %
Requires Four Months Sobriety to Complete X^2 (1, N=483) = 0.14, p = .713						
No	263	84.0%	50	16.0%	313	100.0 %
Yes	145	85.3%	25	14.7%	170	100.0 %
Court Location – Rural X^2 (1, N=545) = 1.75, p = .186						
No	416	84.7%	75	15.3%	491	100.0 %
Yes	42	77.8%	12	22.2%	54	100.0 %

As a result of the above analysis, NCSC included all independent variables that had a significant chi-square into the regression model. Program-level variables entered included:

Require Weekly Supervision Contact in Phase 1

Table 41: Full Regression Model Predicting Successful Program Completion

Variables	B	S.E.	Odds Ratio
Program Variables			
Program Capacity > 40	-.485	.380	-
Program Maturity (10+ Years)	-.226	.294	-
Average Length of Stay < 12 Months	.595	.376	-
Required Daily AA Meetings in Phase 1	.327	.342	-
Alcohol Test Twice per Week – Phase 1	.180	.410	-
Uses Remote Testing	.458	.373	-
Court Location Type – Rural* **	**2.353**	**.506**	**952%**
Number of Treatment Providers*	**.218**	**.109**	**25%**
Number of Treatment Providers (polynomial)	-.006	.007	-
Individual Variables			
Gender (compared to male)	-.274	.220	-
Age Group (compared to < 21)			
21 – 30	.675	.489	-
31 – 40	.675	.524	-
41 – 50*	**1.241**	**.567**	**246%**
Race (compared to White)			
Black	-.393	.376	-
Other Non-White	-.273	.398	-
Drug of Choice (compared to Non-Alcohol)	.240	.346	-
Marital Status (compared to Non-Married)	.331	.302	-
Employment at Entry (compared to Unemployed)**	**.671**	**.221**	**96%**
Charge Type (compared to Non-Felony)	-.281	.309	-
Prior Convictions (No v. Yes)	.170	.391	-
Participant Proxy Risk Category (compared to Medium Risk)			
Low Risk*	**.581**	**.247**	**79%**
High Risk**	**-1.125**	**.406**	**68%**
Prior Substance Abuse Treatment (No v. Yes)†	-.376	.221	-
Total Number of Treatment Hours (compared to < 100)			
100 – 200 hours	-.289	.394	-
> 200 hours	-.145	.361	-
Mental Health History (No v. Yes)	-.200	.253	-
Number of Days in Court (compared to < 420 days)* **	**2.714**	**.247**	**1,408%**
Drug Tested Average Twice Per Week	.048	.315	-
Substance Abuse Treatment (compared to Non-Residential Only)			
Residential Only**	**-3.561**	**1.268**	**97%**
Both Residential and Non-Residential*	**-1.012**	**.419**	**64%**
Constant	-2.530	.871	.080

***Significant $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Table 42: Full Regression Model Predicting Successful Program Completion – Includes Number of Days in Court as Continuous Variable

Variables	B	S.E.	Odds Ratio
Program Variables			
Program Capacity > 40	-.270	.385	-
Program Maturity (10+ Years)	-.105	.309	-
Average Length of Stay < 12 Months	.625	.509	-
Required Daily AA Meetings in Phase 1	.471	.359	-
Alcohol Test Twice per Week – Phase 1	-.102	.440	-
Uses Remote Testing	.566	.412	
Court Location Type – Rural* **	**2.020**	**.526**	**654%**
Number of Treatment Providers	.047	.096	-
Number of Treatment Providers (polynomial)	.003	.007	-
Individual Variables			
Gender (compared to male)	-.262	.238	-
Age Group (compared to < 21)			
21 – 30	.404	.528	-
31 – 40	.421	.565	-
41 – 50	.862	.611	-
Race (compared to White)			
Black	-.618	.391	-
Other Non-White	-.368	.412	-
Drug of Choice (compared to Non-Alcohol)	-.040	.376	-
Marital Status (compared to Non-Married)	.486	.321	-
Employment at Entry (compared to Unemployed) **	**.709**	**.238**	**103%**
Charge Type (compared to Non-Felony)	-.295	.323	-
Prior Convictions (No v. Yes)	.152	.405	-
Participant Proxy Risk Category (compared to Medium Risk)			
Low Risk*	**.612**	**.263**	**84%**
High Risk**	**-1.208**	**.430**	**70%**
Prior Substance Abuse Treatment (No v. Yes)	-.346	.236	-
Total Number of Treatment Hours (compared to < 100)			
100 – 200 hours	-.606	.432	-
> 200 hours	-.399	.386	-
Mental Health History (No v. Yes)	-.198	.269	-
Number of Days in Court* **	**.009**	**.001**	**9%**
Drug Tested Average Twice Per Week	.035	.342	-
Substance Abuse Treatment (compared to Non-Residential Only)			
Residential Only**	**-4.683**	**1.792**	**99%**
Both Residential and Non-Residential*	**-.997**	**.443**	**63%**
Constant	-4.302	.946	.014

***Significant $p < .001$, ** $p < .01$, * $p < .05$

Table 43: Full Regression Model Predicting Two-Year Recidivism

Variables	B	S.E.	Odds Ratio
Program Variables			
Program Capacity > 40	-.290	.321	-
Requirement of Weekly Contact with Supervision – Phase 1	-.538	.526	-
Individual Variables			
Gender (compared to male)	.450	.287	-
Age Group (compared to 21 – 30)			
31 – 40*	**-1.338**	**.525**	**74%**
41 – 50***	**-2.016**	**.599**	**87%**
51 – 60***	**-2.353**	**.665**	**91%**
Race (compared to White)			
Black	-.491	.636	-
Other Non-White	-.775	.654	-
Drug of Choice (compared to Non-Alcohol)	-.430	.414	-
Marital Status (compared to Non-Married)***	**1.259**	**.335**	**252%**
Employment at Entry (compared to Unemployed)	.436	.304	-
Charge Type (compared to Non-Felony)***	**1.859**	**.358**	**542%**
Prior Convictions (No v. Yes)	-.069	.500	-
Participant Proxy Risk Category (compared to Medium Risk)			
Low Risk	.253	.333	-
High Risk	.415	.477	-
Prior Substance Abuse Treatment (No v. Yes)	-.246	.289	-
Total Number of Treatment Hours (compared to < 100)			
100 – 200 hours	.001	.447	-
> 200 hours	-.121	.442	-
Mental Health History (No v. Yes)†	.553	.318	-
Number of Days in Court (compared to < 420 days)	-.494	.317	-
Discharge Status (compared to Non-Graduates)***	**-1.361**	**.319**	**74%**
Drug Tested Average Twice Per Week	-.456	.368	-
Substance Abuse Treatment (compared to Non-Residential Only)			
Residential Only*	**1.716**	**.867**	**456%**
Both Residential and Non-Residential**	**1.417**	**.464**	**313%**
Constant	.535	.911	1.708

***Significant $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Table 44: Full Regression Model Predicting Four-Year Recidivism

Variables	B	S.E.	Odds Ratio
Program Variables			
Requirement of Weekly Contact with Supervision – Phase 1*	**-1.222**	**.601**	**71%**
Individual Variables			
Gender (compared to male)	-.084	.347	-
Age Group (compared to 21 – 30)			
31 – 40	.104	.911	-
41 – 50	-.354	.972	-
51 – 60	-.956	1.030	-
Race (compared to White)			
Black	-.038	.578	-
Other Non-White	-.579	.618	-
Drug of Choice (compared to non-alcohol)	-.331	.483	-
Marital Status (compared to Non-Married)* **	**1.241**	**.380**	**246%**
Employment at Exit (compared to Unemployed)	-.309	.407	-
Charge Type (compared to Non-Felony) **	**1.283**	**.464**	**261%**
Prior Convictions (No v. Yes)	.794	.728	-
Participant Proxy Risk Category (compared to Medium Risk)			
Low Risk	.013	.389	-
High Risk	-.045	.567	-
Prior Substance Abuse Treatment (No v. Yes)	-.061	.332	-
Total Number of Treatment Hours (compared to < 100)			
100 – 200 hours	.464	.472	-
> 200 hours	-.283	.554	-
Mental Health History (No v. Yes)†	.617	.360	-
Number of Days in Court (compared to < 420 days)	-.271	.357	-
Discharge Status (compared to Non-Graduates)* **	**-1.369**	**.389**	**75%**
Drug Tested Average Twice Per Week	.066	.468	-
Substance Abuse Treatment (compared to Non-Residential Only)			
Residential Only	1.845	1.301	-
Both Residential and Non-Residential	.978	.744	-
Constant	-.245	1.207	.782

***Significant $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Technical Appendix: Proxy Risk Scoring

The cut-off points for each item are described in detail below.

Current age (at the time of probation/sobriety court placement): A value of 0, 1 or 2 was assigned based on the participant's age at placement, relative to the remainder of the population. A score of 2 was assigned to the youngest third of the population (anyone under 28.4 years of age at the time of probation placement), a 1 was assigned to the middle third of the population (anyone between the ages of 28.4 and 38.8 years of age), and a 0 was assigned to oldest third of the population (anyone over the age of 38.8).

Age at first adult arrest: A value of 3, 2 or 1 was assigned based on the participant's age at first arrest, relative to the remainder of the population. A score of 3 was assigned to the third of the population arrested at the youngest age (anyone first arrested before the age of 19.7), a 2 was assigned to the middle third of the population (anyone first arrested between the ages of 19.7 and 26 years of age), and a 1 was assigned to oldest third of the population (anyone first arrested after the age of 26).

Number of Prior Adult Arrests: A value of 3, 2 or 1 was assigned based on the number of times a participant had been arrested as an adult. A score of 3 was assigned to the third of the population with the highest number of prior offenses (more than 5 prior arrests), a 2 was assigned to the middle third of the population (anyone with 3-5 prior arrests) and a 1 was assigned to the third of the population with fewer than 3 prior adult arrests.

Table 45 shows the distribution of proxy risk across the sobriety court sample and the recidivism rate (as measured by a new conviction within two and four years of program placement) associated with each proxy risk score for all participants who had a proxy risk score. Recidivism levels are displayed in *Table 45* for only those participants who entered the program at an early enough date to have the opportunity to reoffend. Participants with proxy risk scores between 2 and 5 were considered low-risk (54.9 percent of the sample) and had two-year recidivism rates of 6.1 percent and four-year recidivism rates of 13.8 percent. Participants with proxy risk scores of 6 or 7 were considered medium-risk (32.0 percent of the sample) and had two-year recidivism rates of 10.2 percent and four-year recidivism rates of 18.4 percent. Participants with a proxy risk score of 8 were considered high-risk (5.0 percent of the sample) and had two-year recidivism rates of 21.7 percent and four-year recidivism rates of 31.3 percent. A proxy risk score was not computed for approximately eight percent of sobriety court participants due to missing data.

Table 45: Proxy Risk Scores and Recidivism Rates of the Sobriety Court Sample

Proxy Score	N	Distribution of Sample	Two-Year Recidivism Rate	Four-Year Recidivism Rate	Risk Level
2	125	7.7%	3.5%	6.9%	Low
3	255	15.6%	4.4%	8.3%	Low
4	186	11.4%	7.9%	15.3%	Low
5	330	20.2%	7.5%	20.8%	Low
6	310	19.0%	7.1%	11.9%	Medium
7	212	13.0%	14.7%	28.1%	Medium
8	81	5.0%	21.7%	31.3%	High
Unknown	132	8.1%	3.2%	13.5%	Unknown

Table 46 shows the distribution of proxy risk across the BAU comparison group sample and the recidivism rate (as measured by a new conviction within two and four years of program placement) associated with each proxy risk score for all BAU comparisons who had a proxy risk score and were matched to a sobriety court participant. Recidivism levels are displayed in *Table 46* for only those participants who entered the program at an early enough date to have the opportunity to reoffend. Comparison group participants with proxy risk scores between 2 and 5 were considered low-risk (58.6 percent of the sample) and had two-year recidivism rates of 13.4 percent and four-year recidivism rates of 15.5 percent. Comparison group probationers with proxy risk scores of 6 or 7 were considered medium-risk (20.8 percent of the sample) and had two-year recidivism rates of 25.2 percent and four-year recidivism rates of 36.7 percent. Comparison group probationers with a proxy risk score of 8 were considered high-risk (2.2 percent of the sample) and had two-year recidivism rates of 34.6 percent and four-year recidivism rates of 60.0 percent. A proxy risk score was not computed for approximately 18 percent of BAU comparisons due to missing data.

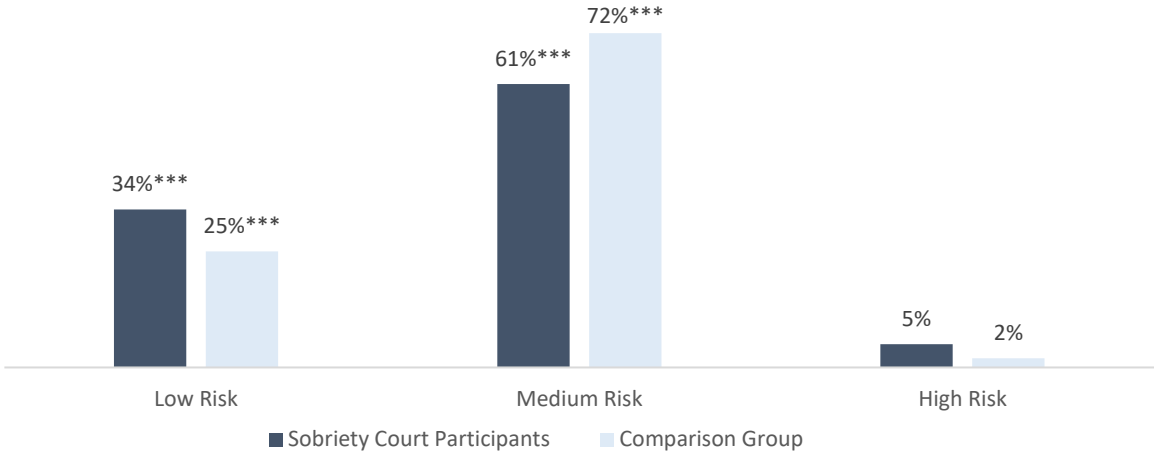
Table 46: Proxy Risk Scores and Recidivism Rates of the BAU Comparison Group Sample

Proxy Score	N	Distribution of Sample	Two-Year Recidivism Rate	Four-Year Recidivism Rate	Risk Level
2	235	14.4%	6.5%	5.2%	Low
3	240	14.7%	12.0%	10.4%	Low
4	202	12.4%	17.6%	23.5%	Low
5	278	17.0%	17.5%	26.7%	Low
6	216	13.2%	28.3%	35.3%	Medium
7	124	7.6%	19.4%	40.0%	Medium
8	36	2.2%	34.6%	60.0%	High
Unknown	300	18.4%	9.8%	12.9%	Unknown

As shown in *Figure 16*, significantly more sobriety court participants were lower risk than their BAU comparisons. In general, sobriety court participants are significantly less likely to reoffend within two years compared to comparisons; low-risk participants and comparisons are significantly less likely to reoffend within two years compared to medium-risk participants and comparisons; and high-risk participants and comparisons are significantly more likely to reoffend within two years of entry compared to medium-risk participants and comparisons, as expected (see *Table 47*). When we adjust

for the differences in risk levels between the drug court participants and the comparison group, the pattern is consistent.

Figure 16: Proxy Risk Comparison Two-Year Recidivism Sample



****Significantly more sobriety court participants were low-risk and more comparison people were medium-risk compared to their counterparts (p < .001).*

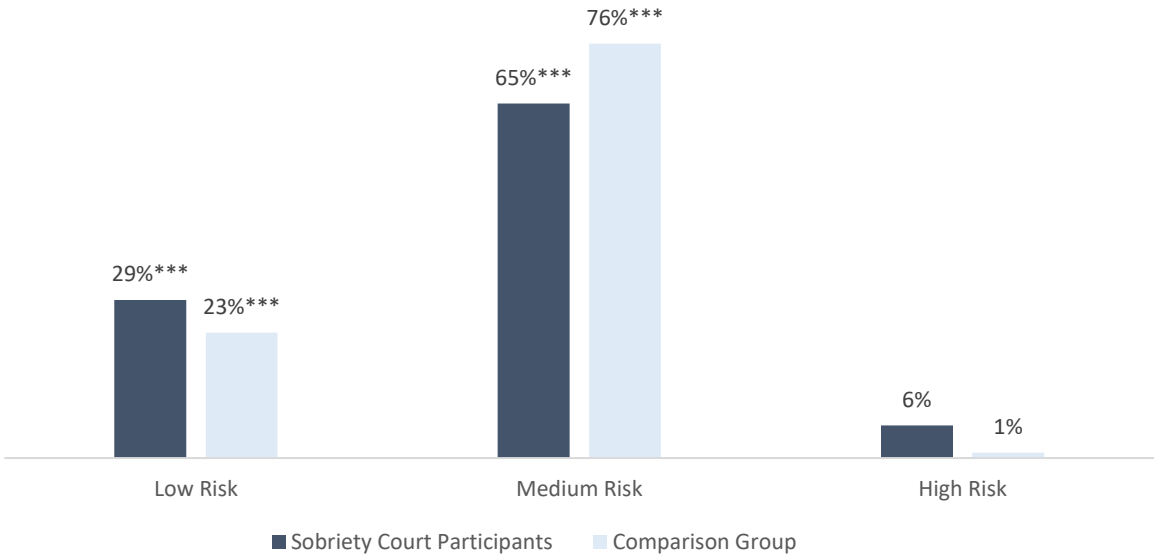
Table 47: Participant Type and Proxy Risk Predicting Two-Year Recidivism

Variables	B	S.E.	Odds Ratio
BAU (compared to Participant)***	**.963**	**.143**	**162.0%**
Proxy Risk Category: Medium Risk			
Proxy Risk Category: Low Risk (compared to Medium)***	**-.677**	**.142**	**49.2%**
Proxy Risk Category: High Risk (compared to Medium)**	**.752**	**.277**	**112.2%**
Constant	-2.132	.138	.119

***Significant $p < .001$, **$p < .01$

As shown in *Figure 17* below, significantly more sobriety court participants were lower risk than their BAU comparisons. In general, sobriety court participants are significantly less likely to reoffend within four years compared to comparisons; low-risk participants and comparisons are significantly less likely to reoffend within four years compared to medium-risk participants and comparisons; and high-risk participants and comparisons are more likely to reoffend within four years of entry compared to medium-risk participants and comparisons (at a level approaching significance), as expected (see *Table 48*). When we adjust for the differences in risk levels between the drug court participants and the comparison group, the pattern is consistent, although at a level approaching statistical significance.

Figure 17: Proxy Risk Comparison Four-Year Recidivism Sample



****Significantly more sobriety court participants were low-risk and more comparison people were medium-risk compared to their counterparts (p < .001).*

Table 47: Participant Type and Proxy Risk Predicting Two-Year Recidivism

Variables	B	S.E.	Odds Ratio
BAU (compared to Participant)*	**.483**	**.199**	**62.1%**
Proxy Risk Category: Medium Risk			
Proxy Risk Category: Low Risk (compared to Medium)***	**-.780**	**.208**	**54.2%**
Proxy Risk Category: High Risk (compared to Medium)†	.735	.423	-
Constant	-1.314	.193	.269

***Significant p < .001, *p < .05, † p < .10

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